

THE MEDICAL AND SURGICAL REPORTER.

No. 1471.]

PHILADELPHIA, MAY 9, 1885.

[Vol. LII.—No. 19.]

ORIGINAL DEPARTMENT.

COMMUNICATIONS.

THREE CASES OF IDIOPATHIC ANÆMIA, WITH REMARKS; AND AN ANALYSIS OF THE CASES HITHERTO PUBLISHED IN AMERICA.

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Of Philadelphia.

(Continued from page 554.)

ANALYSIS OF BLOOD.

Female, Idiopathic Anæmia. Dr. John Marshall.	Female, Healthy. Bequerel and Rodier (modified).
In 1000 parts.	In 1000 parts.
Water.....800.1950	Water.....791.10
Fibrin.....4.9600	Fibrin.....2.20
Albumen.....59.7000	Albumen.....70.50
Inorganic Salts.....7.2410	Extractive matter... } 9.01
Iron......1871	Fatty matter..... } 9.01
Fats and Extractures 2.1800	Salts, including Iron. } 9.01
Blood corpuscles.....125.5369	Blood corpuscles.....127.00

Case 2. Idiopathic anæmia; partial recovery;
relapse; subsequent cure.*

November 11, 1880. T. L., æt. 41, born in Pennsylvania, resides in Clearfield Co., Pa.; occupation, carpenter, past ten years; in winter engaged as lumberman; married; three healthy children; habits very good; has worked hard since a young man, in storm and sunshine; has had more than the average care and trouble falling to man; never had venereal disease, and no venereal excess.

Mother died of cancer of the uterus; father living and healthy; patient one of ten children living; the sisters, four in number, are in delicate health, others healthy; otherwise family

* Ward notes of writer as Med. Registrar; case under Prof. Pepper's care in Univ. Hospital.

history not definite, but believes there is no hereditary disease, either on the paternal or the maternal side.

When young was considered in delicate health, "having some kind of a scrofula." When twenty-one, and from then to twenty-five, was stout and hearty. Ever since then has been more or less delicate. Had measles. Twelve or fourteen years ago had an attack of dyspepsia; became debilitated and very miserable, remaining so the entire winter, during which he had an attack of pleurisy. For six or seven years was in fair health, when he had a similar dyspeptic attack; since then has been having more or less dyspepsia. The present trouble he dates from the harvest season of 1879. There was no exciting cause, but from that time became weaker and miserable, losing power to work and all ambition. Felt unable to work, yet continued at it until February; then he was taken ill, and confined to his house for two months. He lost his natural complexion, pain in the epigastrium and about the heart annoyed him, vomiting occurred at times, also diarrhoea with yellow stools with white curd in them. The diarrhoea and the epigastric pains were the first symptoms; in addition, lost flesh and strength—flesh rapidly. Appetite was lost. Throughout the summer and fall, until admission, suffered from pain at the heart, especially on exertion, with fluttering; at variable times, nausea or pain in the stomach, indigestion, a changeable, but generally poor appetite, and irregular bowels; debility also continued; had not gained flesh since the attack in February.

At present, his condition is as follows:

Considerably emaciated; skin muddy hue, soft

and moist; conjunctiva pale; sclerotics not pearly white, but with a yellowish hue; hands pale, bloodless; mucous membrane of the mouth, the lips and the tongue very pale; hair and beard fully developed, black; eyes light brown; no tuberculous or scrofulous appearance.

Mental faculties normal; vision normal; when heart palpitates, a blowing sound is heard by him in the left ear, synchronous with the heart-beat; special senses otherwise normal.

Tongue pale, flabby, marked by the teeth, some papillæ prominent, no coating; in the morning, throat parched, appetite poor; no increased thirst; when hungry, or prior to meal-time, an empty sensation in the stomach, amounting at times to nausea. After eating, at times, weight and fullness in the epigastrium, flatulence, some slight regurgitation of food—not to mouth, but to a point behind notch of sternum, relieved by swallowing; this has been a constant and annoying symptom. Bowels now are regular and of a natural color. Suffers from pain in the middle of the sternum at the fourth rib; flatulence seems to increase it, exertion causing palpitation increases it; at times the pain radiates towards the axilla—more towards the left—extending on that side down the arm, not as a pain, but as a dumb, aching sensation; the left pectoral is sore to pressure at times.

The cardiac impulse is seen in the fourth interspace, at the nipple, and in the fifth, $1\frac{1}{2}$ inches inside the nipple line. A distinct epigastric impulse is seen; area of cardiac dullness slightly increased. Full inspiration diminishes the area of dullness. Heart beating 120; pulse weak, compressible, not full. When admitted, at the first right rib, and in the first interspace, a systolic murmur was heard, transmitted into the vessels; since the heart has been slowed by digitalis, a slight systolic low-pitched murmur is heard at the third rib, diminishing, yet heard at the apex, heard also louder at the aortic cartilage, louder and higher-pitched at the head of the first rib. It is also heard at the pulmonary valve, but less strong. The murmur is also transmitted in the vessels of the neck, louder right than left, and in the abdominal aorta. On the right side a loud venous murmur is heard; on the left it is not so distinct. Similar murmurs are heard also in the iliac vein. Stomach dilated, apparently pressing upward. At the right edge of ribs, between median line and ribs, a small mass yielding dullness, noticed. Urine had a slight trace of albumen, otherwise normal.

November 20. Urine contained a trace of albu-

men when admitted, but now free from it. No abnormal sediments.

Blood is thin and pale; enumeration of blood-corpuscles shows 2,210,000 red cells to the cubic millimetre, and 1 white to 147 red ones.

Improvement was marked under treatment by rest, careful diet, and tonics. He left the hospital an improved, but not cured, patient.

Re-entered hospital March 3, 1881.

During interval, his condition as follows: First two months, he was weak and very tired; could not digest food; lost flesh.

He then began to improve, and ever since has been gaining strength slightly. Before the last admission, for some time had slight pain about heart, with palpitation, especially on exertion.

When admitted: Much paler and rather more sallow than when discharged, mucous membranes very pale, sclerotics pearly, conjunctivæ very pale, extremities bloodless. Does not complain of cold extremities. Fingers not clubbed. Slight puffiness of eyelids, and œdema of ankles at night. Appetite fair, tongue slightly coated, very pale; digestion very good; since discharge, looseness of bowels, but no diarrhœa. Stools thin, light clay-colored.

Murmurs in heart and veins very distinct; more so than when previously in house. Dyspnoea and palpitation on exertion; pulse 108, small, compressible.

Special senses good. Slight failure of memory. Loss of energy and of strength quite well-marked.

No hemorrhages. Examination of blood shows 1,000,000 red cells, and a proportion of 1 white to 40 red.

No enlarged lymphatics, or enlarged liver or spleen. Urine normal.

Soon after the above notes were taken, the patient left the hospital. It was learned by the writer, from reliable authority, that he had fully regained his health, and was able to engage in business. This was ascertained two years after the patient was under treatment.

Case 3. Idiopathic anemia; improvement; relapse; subsequent course unknown.

Dennis French, æt. 44, saloon-keeper; miller in early days. Past fifteen years addicted to free use of liquors. In the army for six months, and then discharged for so-called organic kidney disease.

Since the war, complained of indefinite symptoms, which might be resolved into the term debility. He never had any special cause for mental strain or depression. Family history good. Aside

from the above complaint, the patient's previous health was very good.

Among the symptoms of his later years that were especially noticeable, were a burning sensation in his tongue, amounting to a high degree of soreness the past two years, feeling as if it would drop off, and as if he had coals of fire in his mouth.

It was only about the holidays (1882) that the definite symptoms of anæmia developed. He noticed weakness and aching on the slightest exertion, with almost intolerable dyspnoea and palpitation. These symptoms increased, the latter becoming so pronounced as to prevent him going up stairs the past five weeks. Pallor of the countenance noticed at this time by wife.

Condition, April 2, 1883—occasion of first visit:

General Appearance.—Emaciated (lost thirty pounds); extreme pallor, characteristic dirty yellow hue of skin; sclerotics dead-white; ears, fingers, and mucous membranes bloodless; hair abundant, soft, and leaden gray; slight oedema of ankles and puffiness of eyelids; extremities cold, wrists especially; generally in recumbent posture.

Mental Symptoms.—None pronounced, save loss of memory and inability to concentrate his mind. Special senses about normal. Some dimness of vision; subjective noises in the ears, causing great distress, accompanied by pulsations in the head; the throbbing especially noticeable on the top of the head.

Digestive Symptoms.—Tongue pale, pointed, clean, very sore, without any appearance of irritation; appetite very poor; digestion slow; no vomiting; some flatulence, and uneasy sensations; obstinate constipation; no hemorrhoids. Liver and spleen normal size; abdomen normally distended.

Respiratory Organs.—Extreme dyspnoea on the slightest exertion, and at times without apparent cause. Lungs normal. No cough. Nose-bleeding was pronounced and profuse, occurring once or twice daily, causing extreme exhaustion. It had continued since December of the previous year (1882), or about the time of the development of the anæmia.

Circulatory Organs.—Palpitation distressing after exertion or excitement. Pulse small, feeble and rapid (100 to 120). First sound of heart moderately loud but quick, with muscular element not pronounced. Second sound clear and ringing. At the base and the aortic cartilage very decided anæmic murmurs, influenced in loudness by pressure or change of position of patient,

transmitted to the carotids, and generally soft and low in pitch. In the jugulars and the jugular sinus, a loud continuous venous hum. Area of dullness of heart not increased, but square in shape. Apex in normal position, but found with difficulty. Impulse feeble. Aorta pulsated in epigastrium. Veins of neck appeared full. No murmurs over the head.

Urine clear in color, passes frequently Oijj. in twenty-four hours; especially abundant at night; generally free from deposit. Sp. gr. 1017. Acid reaction. Quantitative analysis by Dr. Marshall. No albumen or sugar.

P ₂ O ₅ ,	= .146 per cent. =	2.46 grms.
Urea,	= 1.5 per cent. =	25.28 grms.
Uric acid,	= .017 per cent. =	28.645 grms.
NaCl,	= .565 per cent. =	9.52 grms.

Microscopically, nothing found.

Blood.—First examination, April 10, 1883, by Dr. W. E. Hughes. Very watery; 570,000 red cells per c. mm.; 2,000 white per c. mm.; 1 white to 285 red. Many of the red cells larger than normal; some at least twice the usual size and some smaller than normal. Many of them tailed and otherwise irregularly shaped. White corpuscles quite large, otherwise normal. Color of red fully up to normal.

Second examination, June 15, 1883, by Dr. Burgy,* 660,000 red; 170,000 white per c. mm. Many microcytes.

Third examination, February 17, 1884. Red corpuscles 1,600,000 per c. m.; white cells 20,000 per c. m. Microcytes in considerable quantity.

Treatment.—

R. Tr. ferri chlor.,
Tr. digitalis, ññ ̄ss.
Hydrarg. bichlor., ̄ gr. M.

Sig.—Thirty drops; taken daily in water; regulated diet; laxative pill.

Under treatment improved rapidly, so that as far as strength was concerned, he was about all summer and the succeeding fall and winter, until December, being able to do light work, walk long distances and carry heavy packages, though with some inconvenience (dyspnoea).

In December, had a relapse; debility and dyspnoea, with some loss of appetite, being most marked. He then passed from the writer's observation. It is to be regretted he never would permit an ophthalmoscopic examination. A note as to the temperature record was overlooked in the above history. For some time he had daily feb-

*Dr. Burgy was then engaged in blood examination at the writer's suggestion. His observations were recorded in a thesis presented to the Faculty of the University of Pennsylvania, and for which he received distinguished merit.

rile exacerbations, rising to 102° or more. The exact record has been lost.

Remarks.—There was no difficulty whatsoever in recognizing the nature of the disease in the first and last cases reported. The profound anæmia, the cardiac and vascular murmurs, the preservation of adipose tissue in one, the absence of organic disease, together with the results of the blood examination, were sufficient points to establish the diagnosis. Case 2 was rather more obscure; the marked gastric symptoms, with the presence of a suspicious induration in the epigastrium, led us to consider the diagnosis of carcinoma of the pylorus. The anæmia was not as great on the first visit, and looked not unlike the anæmia of carcinoma. As is well known, this is profound, and the reduction of the red cells may be as low as in our case. In one of the writer's cases, the red cells were reduced to 2,225,000 per c. mm., and 1 white to 225 red were counted. There was extensive carcinomatous disease of the pancreas, duodenum, and lymphatic systems.

The return of our patient dispelled our thoughts of malignant disease, for the blood was much reduced in corpuscular richness, without the advancement of organic disease; in fact, with the disappearance of dyspeptic symptoms almost entirely.

The following remarks are suggested by a study of the cases detailed, and the importance of the subject will warrant our trespassing on your time a few moments for bringing them to your notice.

1. *Etiology.*—It is of interest to note in Case 1 the possible relation of the development of the disease to shock, as observed by Dr. Curtin, whose views have been anticipated by others. The age and sex of our patients presented some variations from the usually accepted averages of the Germans on these questions. Two males beyond forty, and one female, mark them. The dyspeptic attacks possibly had some casual influence in Case 2. But the cause of the third case is quite obscure. None of the cases were deprived of food or suffered any want.

2. *Appearances of the Blood.*—The blood examinations revealed the characteristic changes found in this form of anæmia. In our cases, however, nucleated red corpuscles were not seen. Changes in size and shape were marked in Cases 1 and 3. Some cases of chlorosis and of puerperal anæmia have lately been under the writer's care. The examination of the blood will be subjoined for comparison. It will be observed that in the three varieties there was a reduction in

the number of red cells, but that in the cases of idiopathic anæmia changes in the size were most marked, and the reduction in number was infinitely greater.

M. F., fem., æt. 19; *chlorosis*; red corpuscles, 2,600,000 per cmm.; normal in appearance; no microcytosis; unusual number of collections of Max-Schultze's granules, large in size, with distinct nuclei.

Mrs. C., æt. 37; *anæmia of pregnancy and puerperium*; red cells, 3,080,000; only slight variations in size; few Schulze's granules. Mrs. C.'s anæmia was most profound, reckoned by appearance and symptoms.

As has been noted by Professor Osler, the Max-Schultze's granules are absent in idiopathic anæmia. The extreme reduction in red cells, the changes in size, shape, and color, the adventitious cells (nucleated corpuscles), and the absence of Max-Schultze's granules, therefore, characterize the blood of this disease.

The extreme reduction in the case of French (III), with gradual increase in number, and subsequent recovery, is of extreme interest. Yet cases are recorded by Quincke, and others, where the reduction was far greater and recovery followed.* If he is correct, one should scarcely despair, from the number of red cells alone, in giving a prognosis.

3. *The Urine.*—Urea is said to be lessened, uric acid relatively increased, and phosphoric acid and the chloride of sodium diminished in idiopathic anæmia.† The following table indicates the comparative analysis of urine in health, in idiopathic anæmia, in chlorosis and in puerperal or secondary anæmia. The analyses were made by the efficient Demonstrator of Chemistry in the University of Pennsylvania, Dr. John Marshall:

	Normal.	Secondary Anæmia.	Chlorosis.	Idiopathic Anæmia.
	per ct.	per ct.	per ct.	Case 1. Case 2.
Urea.....	2.8	0.9	1.00	2.3 1.5
Uric Acid.....	0.06			0.087 0.017
Phosph. Acid..	0.20	0.956	0.134	0.13 0.146
Sodium Chlor..	0.80			1.12 0.565

The degree of anæmia, if reckoned by the blood examination, was more profound in the idiopathic variety. Yet the reduction in the percentage of certain constituents of the urine was greater in the secondary forms. One can conceive of an increased tissue-change, and the causes for it, in the more grave anæmia, especially in the fatal case, to explain the apparent

* Quincke's case, 143,000 per c. m.; Worm Muller's case, 360,000.

† See Muller, "Die Prog. Aern. Anæm." Zurich, 1877; Eichhorst, "Die Prog. Per. Anæm." Leipzig, 1878.

discrepancy. In the instances above, we find a diminution in the amount of urea, phosphoric acid, and chloride of sodium, and, in one case, of the uric acid. The circumstances that influence the secretion of the various elements of the urine are so numerous, that it is almost impossible to reckon the value of analyses, unless definite circumstances are present, from which generalizations can be made.

The importance of the subject is sufficient apology for the following observations, which, though they appertain to, are not strictly of the subject. The reduction of the acid is possibly significant, in the cases of chlorosis. It has been held by a German observer that the conversion of the iron of the body into hæmoglobin, or rather the taking up of the iron by the corpuscles, is impossible without the presence of a certain amount of acid in the blood. He claims that a deficiency of this acid is the essential lesion, so to speak, of chlorosis. As a corollary to these facts, he demonstrates by a series of cases the value of hydrochloric acid in curing the disease.

4. *Sympathetic Nerves*.—The negative results of the examination of the sympathetic ganglion tallies with the observations of Wilks, Pye-Smith, and others. It must be remembered that Queckett, in Addison's famous case, and Brigidi (*London Med. Record*, vi., 430,) found marked anatomical changes. The evidence has not been sufficient to point to the sympathetic system as the primary organic affection in this disease.

5. *Bone-Marrow*.—In some cases (Pepper, Osler, Cohnheim, Scheby-Bueh, Hughes, etc.) of so-called idiopathic anemia, the marrow of the bones was seen to have reverted to its foetal structure. In our cases this reversion was notably absent, the yellow marrow not being replaced by red marrow.

6. *Blood Clots*.—Attention should be called to the black specks, or possibly pigment granules, in the blood-clots found in the heart. It is to be regretted their exact nature was not determined, and this remark was made in order that they may be looked for by future observers.

7. *The Chemical Examination of the Blood*.—The most striking feature is the reduction of iron in the blood, and this, taken with the deposition of iron in the tissues (siderosis), in the shape of granules (Quincke), and the increased amount of iron in the urine (Reynolds, in Purser's case*), cells. As this is the only analysis of the blood would go to show a destruction of those elements in the blood which held this substance—the red

ever made that is known to the writer, more data will have to be collected in that direction, before conclusions can be drawn.

8. *Course and Termination*.—Finally, the course and termination of our last cases are worthy of attention. As is well known, relapses are extremely liable to recur in persons apparently cured of this affection. Caution should be used in pronouncing a cure. Case 2 was heard from, two years after dismissal from the hospital by the writer, and was pronounced by the informer a strong, healthy man. It is worthy of observation that this case improved under removal from his home in the mountains to a city hospital. On the other hand, one of Frerich's cases, recorded by Eichhorst, did not recover until he was sent to the country. Case 3 has been lost sight of. Although he improved very much, it cannot positively be said a cure took place.

THE WORK OF OBSERVERS IN AMERICA ON IDIOPATHIC ANEMIA—AN HISTORICAL NOTE.

The English and Germans, most deservedly, have been accredited most of the honor for establishing this disease as a distinct clinical entity. It is almost beyond cavil that Addison was the first to distinctly impress on the profession the clinical and pathological nature of this affection as distinguished from like disorders. Others had described isolated cases, there is no doubt, but he had fixed it, so to speak, in nosology. At the same time the labors of our own countrymen, very early in the history of the disease, are worthy of serious attention and high honor. There is no doubt Channing* and his associates were perfectly familiar with fatal anemias, independent of, or connected with, pregnancy and uterine disease. This was as early as 1842, or seven years prior to the publication of one of Addison's† cases. One of his observations was made in 1832. The publication of his series of cases were antedated only by the publication of the following isolated cases, which were referred to by Pepper,‡ and included by Pye-Smith|| in a very exhaustive table of cases of idiopathic anemia: Combe, 1823; Andral, 1823; Marshall Hall, 1837; Piorry, 1840. There can be no doubt the observations of Channing were made inde-

*Channing, *New Eng. Quart. Jour. Med. and Surgery*, 1842, No. 2, "Notes on Anemia, etc." Musser, J. H., *Medical News*, Oct. 7, 1882, "Historical Notes on Progressive, Pernicious, or Idiopathic Anemia."

†*Med. Times and Gaz.*, March, 1849.

‡Pepper, *Am. Jour. Med. Sciences*, 1875.

||Pye-Smith, *Idiopathic Anemia*, *Guy's Hospital Reports*, 1882.

*Purser, *Dublin Quarterly Jour.*, 1877.

pendently of any other ones; the singular confessions of ignorance of the nature of the cases and of want of knowledge of any writings on similar ones, and the faithful and accurate description of them, coupled with the scanty dissemination of medical knowledge in that era, point irresistibly to the above conclusion. It is extremely bracing to moral medical courage to read this quaint article and feel the force of the honest expressions of ignorance of the obscure disease; it is a record of facts.

There is no doubt similar cases had been observed from this time to the publication of the next paper (1875); Osler tells us Prof. Howard taught to his classes, in 1869, the existence and symptoms of idiopathic anemia. Flint,* in his "Clinical Medicine," says that he had described, in 1871, cases of degeneration of the gastric tubules, which were no doubt cases of idiopathic anemia. The records of American medicine do not yield any observations, however.

Prof. Pepper,† in the latter part of 1875, published an exhaustive article. He considered the relations of this disease to other forms of anemia, referred to the observations of previous contributors, discussed the clinical history, the course, the anatomical characters, and the diagnosis. He suggested the name *anematosi*, and was the first to suggest that the essential lesion was disease of the bone marrow, and that it was simply pseudo-leukemia of the myelogenic variety. His observations were afterwards incorporated in a joint article by himself and Prof. Tyson, and published in *Virchow's Archiv*. The same year Dr. Chadwick,‡ of Boston, published a very interesting case.

The next contribution of any length was made to the International Medical Congress in 1876, by Prof. Howard.¶ Bradford had reported, however, another case in the *Boston Journal* a few months previously. Prof. Howard reported four cases, analyzed a large number, and discussed the relations and pathology of the disorder. He concluded that all forms of anemia may take on a progressive and pernicious character, and that, up to that time, we were not warranted in making a distinct variety of anemia, called "progressive, pernicious."

Among the most important contributions to the

* Flint, N. Y. Med. Jour., 1871.

† Pepper, Am. Jour. Med. Sciences, October, 1875, "On Prog. Per. Anemia or Anematosi."

‡ Chadwick, Boston Med. and Surg. Jour., 1875.

¶ Howard, Trans. Internat. Med. Cong., Phila., 1876.

study of idiopathic anemia few are of greater value than those of Prof. Osler,* formerly of Montreal, now of this city. Together with his colleagues, his contributions continue to the present time, beginning in 1877 with the report of a case, in conjunction with Prof. Gardner. Not only has he contributed to our knowledge of this disease, but he has made extensive researches into the changes the blood undergoes in health and disease. He confirmed the observations of Pepper, and regarded this variety of anemia a myelogenic form of pseudo-leucoerythemia. His papers include careful observations of the size and shape of the blood-cells, and of the marrow-cells.

In 1879, Dr. Hutchinson, in a very complete clinical lecture,† detailed one case, referred to several others, gave the result of his analysis of thirty-two cases, and a resumé of our knowledge up to that time. The four cases were males; one was fifty and another twenty-five years old. Hutchinson called attention to the influence of shock, worry, grief, etc., in the causation of the disease. In one, grief at the loss of his wife; in another, grief at the loss of his daughter; in a third, business worry, were powerful etiological factors. One of his patients was a rich manufacturer. Cod liver oil and iron seemed to be remedies that were of service in his cases. The one detailed in full will be found in the succeeding table.

The studies of F. P. Henry,‡ of Philadelphia, in blood diseases, are well known. For his efforts he received the Cartwright prize of the College of Physicians, New York. In addition to this essay he has published numerous observations on the appearances of the blood in various diseases.

The remaining contributions to the study of idiopathic anemia in America, are the reports of isolated cases with brief remarks on them. They will be included in the appendix table, in abstract, with the publication references to each one.

In our text-books on the practice of medicine,

* Osler and Gardner, Canada Med. and Surg. Journal, 1877; Osler and Bell, Trans. Canada Med. Association, 1877; Osler, Centralbl. Med. Wissensch., 1877, No. 28; Osler and Gardner, Centralbl. Med. Wissensch., 1877, No. 15; Osler, Centralbl. Med. Wissensch., 1878, No. 26; Osler, Canada Journal Med. Science, 1881.

† Med. News, 1879.

‡ F. P. Henry, Observations with the Hemocytometer on the Globular Composition of Blood and Milk; Cartwright prize essay, 1881 (Reprint); also, Archiv. of Med., New York, Seguin.

notice is given [of this affection by Flint,* Da Costa,† Bartholow,‡ and Loomis.¶]

Flint says, we know nothing of the primary morbid changes; the clinical characters are sufficiently distinct for its recognition as an individual affection; women are more liable to it than men, and middle-age more than any other period. He sketches very well the characters of the disease, in a concise chapter. Treatment is generally futile he believes. Bartholow also gives to this form of anæmia a separate chapter, calling it prog. per., essential anæmia, or malignant anæmia. Causes: women, 15 to 40 years old, pregnancy, uterine hemorrhage, and bad hygienic surroundings. Fever, he thinks, is a constant symptom. "No cases of cure have been reported." Treatment, he believes to be useless. Otherwise his account tallies with that of other observers; he does not lay sufficient stress on the blood changes, however.

Under the heading "Progressive Pernicious Anæmia," Loomis devotes a chapter to this affection. The disease occurs most frequently in women and between the ages of twenty and forty-five, according to this authority. He shows its entity apart from simple anæmia, leukæmia, pseudo-leukæmia, and chlorosis, and believes the affection of the bone-marrow is entirely secondary. The supervention of this form on a benign anæmia, or on chlorosis, he believes to be uncertain. He does not lay stress on the use of any special drug in the treatment of the disease.

Da Costa, in his "Medical Diagnosis," treats of the affection under the head of anæmia, pointing out its symptoms, and pointing out its possible near relation to pseudo-leukæmia.§

(To be continued.)

THE "HAMMOCK" MODE OF APPLYING THE PLASTER JACKET.

BY A. B. HIRSH, M. D.,
Of Philadelphia.

What physician who has ever treated spinal deformities has not lost temper when using ordinary suspension to apply the plaster jacket, when the patient has almost been strangled by a sudden slipping of the straps sustaining the head, or has fainted or become utterly unmanageable?

* Flint, Clin. Med., 1879. Prac. of Med., 1884.

† Da Costa, Medical Diagnosis, 1884.

‡ Bartholow, Prac. of Med., 1880.

¶ Loomis, Practice of Med., 1884.

§ See also American Edition of Reynolds's "System of Medicine." Complete article by Dr. Hartshorne.

Then, too, there is the discomfort to the patient of keeping up a constant muscular strain in a peculiar position for a more or less lengthened period; while if (as usual) he or she be young in years, the fear or even fright of the patient adds to the unpleasantness of the whole affair. Of course, the expense of the necessary tripod and accompanying apparatus is also not the least item to the practitioner.

These thoughts were suggested by seeing Professor Nancrede recently apply a plaster jacket at St. Christopher's Hospital before his polyclinic class. No originality is, I believe, claimed—an English surgeon first having suggested the hammock for this purpose. In this case, a poorly-nourished Irish lad, aged some eight years, had the corset applied for a posterior dorso-lumbar curvature, although the doctor explained that any and every variety of spinal deformity could be treated by a modification of the same method.

A piece of ordinary "ten-ounce burlap"—the bagging used to wrap around rolls of carpet, etc.—some seven feet in length and three feet in width, was suspended between the two sides of the room. Each end of the canvas has a "casing" about one and one-half inches wide, strongly sewn, and a rope drawn through the space thus made (so as to "bunch" the end), which is then attached to a heavy hook or ring screwed into the wall with a compound pulley and rope to render taut the swing; here we have the convenient hammock as required.

The lad, devoid of clothes except a woolen undervest, was next placed therein, face downwards and with hands and feet extended—the former grasping the sides of the hammock, so as to exercise some extension—and a hole was cut through the bottom of the swing opposite to the nose and mouth, so as to allow him to breathe easily. Care was taken to fit the usual abdominal pad, and to keep the hammock well balanced. The hammock was then cut transversely on a level and down to the iliac crests; the same was done at the upper margins of each axilla. The flaps thus formed were folded around the body, the surplus portion removed, and the whole roughly sewn up, thus forming a second undervest around the woolen one. Starting from above, the bandage was now carried around the body until the deformity was completely covered, the canvas being, of course, included in the turns. The plaster was allowed to set, and the patient relieved from his swing by cutting loose the burlap above and below the jacket, and the procedure was complete. At no time was discomfort complained of, as the little

one even joked about the novelty of his situation.

The professor proceeded to explain that this hammock achieved all the good that Sayre's swing did, and obviated all its objectionable features. On the latter, the curves above and below the gibbosity were straightened out, as well as any lateral deviation, and thus the apparent increase in height was obtained, while the weight of the body, by a true process of leverage, effected through the over-curved portions of the spine; above and below, theoretically tended to separate the softened and diseased anterior surfaces of the vertebral bodies. Whether this latter result was desirable, if obtainable to a marked degree, was more than doubtful in the lecturer's mind, as he thought all that should be aimed at was to remove the weight of the trunk, head, and upper extremities—one or all, according to the portion of the diseased vertebrae—and to place the column in the best position attainable, for ankylosis and future usefulness. In the same way, the prone position in the hammock effaced the curves, and, by leverage, tended to separate the anterior surfaces of the vertebral bodies. The degree to which the hammock was allowed to "sag" would determine the amount of extension exerted upon the spine.

This method was cheap, comfortable, and always available, without any special apparatus beyond bagging, ropes, and strong screw-hooks, staples, or some similar contrivance. The patient might be allowed to swing for hours until the plaster was perfectly dry, thus obviating the risk of cracking of the jacket, which sometimes happens when the patient is, perforce, taken down too soon from Sayre's swing, on account of fainting, etc., as the professor had experienced in his own practice. The screaming, struggling, and terror, so common with children, is all done away with. It is the part of wisdom to place a mattress on the floor beneath the hammock, lest any part of the apparatus break and a serious fall result. The professor now always resorted to this method of applying the jacket, and was perfectly satisfied with it.

2130 Master street.

—To a recent meeting of the New York Pathological Society, Dr. H. Marion Sims presented a uterus, the seat of eight fibroid tumors, together with the appendages, which he had removed five weeks before for the relief of long-continued pelvic pain and frequent and excessive menstrual flow. The patient was now enabled to be about the room.

HOSPITAL REPORTS.

MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.

SURGICAL CLINIC OF PROFESSOR J. E. GARRETSON, M. D.
Reported by THEODORE STANLEY, M. D., Resident Physician at Medico-Chirurgical Hospital.

Use of the Surgical Engine.

Case 1. *Removal of Body of Sphenoid Bone.* This case is, perhaps, unique.

The patient, a lady from North Carolina, was afflicted with an osseous tumor which had originated at the base of the sphenoid bone, and which entirely filled up the posterior nares, rendering breathing through the nose impossible; the age of the growth was some eight years; the age of the patient about fifty-five. The physician of the lady, Dr. J. C. Walton, of Prospect Hill, accompanied her and assisted at the operation.

A diagnosis of the character of the tumor was secured by passing a stellated probe along the floor of the two nares until the obstruction was reached, and then thrusting forward the blade; the growth was also examined and explored by passing the finger from behind the velum into the naso-pharynx, which space was pretty thoroughly filled.

Prof. Garretson, before proceeding in his treatment, called attention to the complication as to position and relation of the bone involved, remarking that never before had a more refined opportunity occurred to him of exhibiting to a class the capabilities of that wonderful means in surgery, the surgical engine.

A surgical engine is, in effect, a mandril, capable of carrying and revolving a variety of instruments, such as circular saws, bits, burrs, etc., which mandril is encased in a metal tube, known as a hand-piece. The power used is various. At the clinic of the Medico-Chirurgical College, cog-wheels or electricity is employed; the last for delicate purposes, the former where irresistible power is demanded. In the present instance both agents were brought into requisition.

The lady being etherized, the problem of getting at a growth so situated was instantly solved by the making of a button-hole incision through the soft palate. A next step to take was to use a delicate chisel, curved on the flat, by means of which the soft tissues were removed from the underlying bony mass, a cut being previously made from top to bottom of the tumor.

At this point commenced the exhibition of a delicacy and a display of confidence as to an operative performance which could not possibly be attempted without the means in use. The reader is to consider that the seat of the operation was the body of the sphenoid bone, and that the performance being practiced through a minute slit in the velum, it was impossible to see, and that while it was necessary to operate in close relation with vital parts, exclusive dependence had to be placed on the sense of touch, as this was derivable through the shank of a burr revolving ten thousand times a minute.

The operation was completed in fifty minutes, the only part of the body of the bone left being the half-cut-away shell of the pituitary fossa—a

condition verified by the fingers of several surgeons present.

In responding to a number of expressions as to the probability of a fatal termination to the operation, Prof. Garretson remarked that he had on two former occasions removed by the same means the basilar process of the occipital bone without a single bad sign, and that such success inspired him naturally with confidence as to satisfactory termination in the present instance.

Result.—The patient, on recovery from the anæsthesia, breathed as freely as is usual through the nostrils. The cure was so rapid and so free from complications that she was able to return to her home in fifteen days. No brain or other kind of trouble exhibited itself.

A case of this kind occurring before the introduction into surgical practice of the engine, could certainly have found no cure but in the death of the patient.

Case 2. Excision of Inferior Maxillary Nerve at Base of Skull.—Case two refers to an operation devised, and now practiced several times, by Prof. Garretson, for excision of the inferior maxillary nerve at the oval foramen. The patient in the present instance was a gentleman from Burlington, New Jersey, long afflicted with an unbearable neuralgia of the region supplied by the tract. The performance commenced with an incision made in the shade-line of the jaw, beginning half an inch in front of the angle, and being carried up half the length of the ramus. Retractors being introduced, and the parotid gland lifted, a raspatory was used to clear a defined space on the exposed bone, which bone was removed by means of a revolving burr so that the nerve as it lay in the maxillary canal was freely exposed to the view of the class. A succeeding step excised the nerve, while the brain end, being taken up in the grasp of bulldog forceps, was followed by means of a burr until the posterior dental foramen was reached. This opening was next enlarged, great care being taken to keep as far as possible below the semilunar notch, and to avoid wounding the internal maxillary artery. A succeeding step was to pass the nerve through a fenestrated probe, which probe was pushed upward through the enlarged dental foramen until it touched the base of the skull at the seat of the oval foramen. Location of the proposed section secured after this manner, a sickle-shaped knife was passed, the cutting-face downward, and when this struck the fenestra of the probe, it was made to cut the nerve.

The reporter has now thrice assisted Prof. Garretson in this operation, and while it can only impress us as being one of great refinement, it in reality is made to show as neither a complicated nor dangerous performance.*

Case 3. Section of Lower Jaw in Treatment of Epulo-Sarcoma. Operations of this character are performed by Prof. Garretson either by means of a burr or a circular saw.

In the case here described, the patient was a lady coming from a neighboring town for the convenience of the accommodation offered by the wards associated with the college.

*Diagrams showing the steps of this operation are to be found in its author's "System of Oral Surgery," 4th Ed., page 574.

Diagnosis.—Epulo-sarcoma: position lower jaw, right side, tumor extending from position of bicuspid tooth to angle of bone.

Operation.—The lips being held out of the way by means of a peculiarly-shaped retractor, the central incisor tooth of the side was extracted, when an incision reaching to the hard parts was carried around the tumor, a large margin being allowed. Next followed a circular saw, its diameter being but little larger than a dime-piece. To avoid, in this step, the cutting of undesired parts, is assuredly a matter which demands the most careful handling of the instrument. It is to be remembered that the operation is practiced within the mouth, that blood is abundant, and that a patient is not to be etherized beyond the capability of recognition by the parts of the presence of a fluid capable of drowning; little is to be seen, the operator must feel his way in part.

The section in this instance was made in exactly seven minutes, a single artery requiring control by the ligature, a second yielding to tension. After-treatment consisted simply in the use of phenol-sodique, a mouth-wash consisting of a tablespoonful to an ordinary goblet of water being used frequently during the day.

Morphia is seldom or never used by Prof. Garretson as a sedative, he teaching that the agent interferes with the obtaining of happy results. Local pain is obtunded by free use of phenol undiluted. Chloroform as an anæsthetic is condemned as adverse to a satisfactory healing of wounds.

MEDICAL SOCIETIES.

PHILADELPHIA NEUROLOGICAL SOCIETY.

A stated meeting of the Society was held February 23, 1885. The President, Dr. S. Weir Mitchell, in the chair.

Dr. H. C. Wood read a paper on chorea, and presented a patient with post-paralytic chorea of peculiar character. He also exhibited a dog suffering from chorea, chiefly affecting the hind legs, and gave the results of some physiological experiments which seemed to point to the spinal origin of at least some choreas.

The discussion on Dr. Wood's paper was opened by Dr. Charles K. Mills, who said he did not fully agree with Dr. Wood in regard to the spinal origin of chorea. As to the treatment of such a case as he presented with movements limited to one limb, he thought that nerve-stretching might give at least temporary relief. He mentioned cases of athetosis which had been operated on in this way, in which the movements remained away for many months. He also mentioned a case of spastic paralysis in which nerve-stretching proved partially successful.

Dr. Wharton Sinkler said he could not agree with Dr. Wood's spinal theory if he meant to apply it to children.

Dr. A. J. Parker referred to the researches which Dr. Dercum and he had made some time ago, and which had been presented to the Society. He said that one inference that might be derived from their experiments was that certain

choreic, as well as other convulsive movements, were not of spinal origin, but were due to disturbance of the equilibrium of the entire nervous system.

Dr. Dercum made some remarks to the same import.

Dr. Chas. K. Mills exhibited the Brain and a cast of the skull of James Burke, a delusional monomaniac, who killed several persons; also the brain of L. W. Beach, the uxoricide.

Dr. J. K. Mitchell read a paper on

A Case of Paralysis, with Hypertrophy of Muscular, Cutaneous, and Avascular Tissues.

LEWIS BRINTON, M. D., Recorder.

A stated meeting was held March 23, 1885. The President, Dr. S. Weir Mitchell in the chair. An abstract of the paper by Dr. J. T. Eskridge on

Tumor of the Cerebellum with Monocular Hemianopia,

which was presented at the January meeting of the society, and the discussion on which was postponed, was read.

The patient, Elizabeth B., æt. 32, married, housework, was delicate and nervous. Her father, mother, and eight brothers enjoyed good health. So far as she knew, none of her relatives had suffered from cancer, phthisis, or other nervous affections. She had never had convulsions, and was well until her ninth year, when she contracted scarlet fever. Convalescence was slow, and she was left deaf in the right ear. There was no history of chronic otorrhea. At the age of nineteen she was married. Her husband, whom she nursed and slept with during his illness, died six years later of consumption. During this union she conceived twice, but aborted each time about the third month. When she was twenty-four years old, she had an attack of inflammatory rheumatism lasting nine weeks. During the last few years her health had not been good. She had suffered from indigestion and some uterine ailment. At her menstrual periods she had had left-sided migraine. In November 1882, she was married the second time.

At that time she was feeling tolerably well, but soon after this marriage she began to suffer from severe and more or less constant headache.

The seat of pain changed from time to time. Sometimes it was in the back of the head, at others in the right or left side, but most frequently it was complained of in the top and frontal region. In February, three months after her marriage, the right eye became very painful, and the right arm and leg numb. The sensation of flashes of light were noticed in the eye when the lids were closed. At that time vision was very poor in the right eye, but subsequently it improved slightly. Soon after the beginning of the trouble in the right eye the left became similarly affected, but vision in this eye did not improve. Her last menstrual period occurred in April.

Shortly after the cessation of the menstrual flow, she began to vomit early in the morning, and sometimes during the day. The vomiting was never connected with taking food. By June she began to be troubled with vertiginous sensations when in the erect posture. Pain on the top

and left side of the head was quite severe and almost constant. When she was admitted to the hospital of the Jefferson Medical College, in the latter part of July, vomiting and headache were the most prominent symptoms complained of.

Assisted by Dr. Parrott, one of the resident physicians of the hospital, I made the following observations of her condition soon after her admission into the medical ward:

She was pale, anæmic, and much emaciated. There was no apparent special cachectic appearance. No tremor or twitching of the muscles was observed. Grasp of the left hand fairly good, that of the right greatly diminished. Walking seemed at first attempt impossible, but by persuasion she was able to walk a few steps between two assistants. The difficulty in locomotion appeared to be due to several causes: want of confidence in her ability to keep from falling, the paretic condition of the right leg, and ataxic state of the muscles of both legs. By a strong effort of her will she was largely able to overcome the ataxia. Walking with eyes shut was more difficult than with eyes open. After considerable effort on her part, she succeeded, with closed eyes, in turning around, and in standing erect while her feet were close to each other. With closed eyes it was impossible to get her to walk forward or backward unless she was partially supported by two assistants. She was kept in the erect posture only a few minutes, but the exertion brought on such a degree of prostration, attended by pallor, nausea, and vomiting, that I feared to again test her ability to walk. This attack of vomiting lasted, with great distress, more than an hour. Electro-muscular contractility to the faradic current was nearly equal on each side, and slightly increased over the normal. Patellar reflexes were diminished, but about equal on both sides. The tongue in forced protrusion deviated slightly to the left. Facial muscles appeared to be unaffected. Speech was slow and hesitating, but articulation good. Left pupil normal, right slightly dilated. Both reacted to light, but the left to a greater degree.

Special Senses.—Sensations of pain, touch, and location were equal on both sides and well preserved; hearing, in right ear destroyed since childhood, in left fairly good; smell unaffected; taste, abolished on the right side, normal on the left; sight—with right eye, fingers were counted at ten feet, with left, at six feet. The field of vision in the right eye was good, but in the left hemianopia of the temporal side existed and apparently extended up to about the median line. On examining the eyes with the ophthalmoscope pronounced optic neuritis descendens was found in both eyes.

Mind was clear, but she was hysterical and exceedingly emotional. To such a degree were the emotional faculties manifest that had there been no ocular lesion there would have been great danger of mistaking the case for one of pure hysteria. Indeed a very careful physician of many years' experience, who had examined her the day before I saw her, not knowing the condition of the eyes, pronounced the woman's condition to be pregnancy complicated by hysteria. This he did after he had been apprized of the fact that another physician had diagnosed brain tumor.

She vomited three or four times daily. August 6 the following temperature observations were made. The weather was clear, temperature in shade 78°.

TEMPERATURE.

Axillary, R 98.6°; L 98.6°.

Head:

Anterior frontal station,	R 98.4°; L 98.4°.
Posterior " "	R 98.5°; L 98.6°.
Superior " "	R 98.4°; L 98.4°.
Parietal " "	R 99.2°; L 98.6°.
Rolandic " "	R 98.5°; L 99.1°.
Occipital " "	R 99.4°; L 99.1°.
Posterior central " "	99°.
Anterior " "	99°.

During August and September the progress of the disease was gradual, and no change in the symptoms was noted beyond increasing difficulty to stand, severer paroxysms of headache, and development of mental aberration during the latter part of the afternoon and early evening. At these times she sobbed, cried, and talked incoherently. Early in October she was transferred to the Woman's Hospital. About the middle of December she became unconscious, and on the 24th of the same month uterine contractions commenced. The next day, shortly before labor was completed, she died. The child was rapidly delivered by the forceps, but it was still-born.

Through the kindness of Dr. Emma V. Boone, pathologist to the Woman's Hospital, I obtained the morbid growth found in the brain, with a short account of the post-mortem made by her. The patient was admitted to the Woman's Hospital at so late a stage of the disease that she was unable to give a connected history of herself. Dr. Boone, who never saw the woman until after her death, knew nothing of her history, and did not expect to find anything in the brain peculiarly interesting. This apology is due to Dr. Boone, who was surprised to learn that the case had been carefully studied early in the disease.

"Autopsy fifteen hours after death: Rigor mortis complete. On opening the cranium, the dura mater was found to be congested and thickened over the convexity of the brain. Longitudinal sinus contained dark coagulated blood. Left side of pia mater markedly congested (post-mortem?). Increase of fluid in both lateral ventricles. On cutting through the tentorium, a nodular tumor, the size of a large horse-chestnut, was found resting on the upper surface of the right lateral hemisphere of the cerebellum. Other portions of the brain appeared normal. The optic nerves were not critically examined. Thoracic cavity: On the right side pleuritic adhesions were extensive, and the lung markedly congested. Left lung normal. No increase of pericardial fluid. Right ventricle of heart occupied by a fibrinous clot; left ventricle contained dark clotted blood. Abdomen: Uterus extended to umbilicus. Placenta, which was undelivered, showed signs of degeneration. Ovaries in iliac fossae. Spleen soft and friable. Left kidney was somewhat enlarged, its capsule abnormally adherent, and the ureter, dilated at its upper portion, contained pus. Right kidney was larger than the left, and its cortical substance, slightly decreased, was the seat of several small abscesses.

Its pelvis and ureter was dilated and contained pus. Vessels of stomach were injected. Liver was pale and presented evidences of fatty degeneration."

The tumor was found, on microscopic examination by Dr. Formad, to be sarcomatous, of the spindle-cell variety.

Remarks.—Monocular hemianopia, which was present in the case just reported, is rare, and peculiarly interesting in connection with brain tumor. The most frequent forms of hemianopia are those in which both right or both left sides of the retinae are blind; next in frequency are those in which the temporal halves of the fields are blind. The least frequent and very rare are cases in which the nasal sides of the fields are absent. In the first variety in which the homonymous sides are affected, the blind fields are usually sharply defined and reach up to the median line, but in cases of nasal or temporal blindness the fields are apt to be irregular (Noyes, "Diseases of Eye"). According to Ferrier's first conclusions (Ferrier, "Functions of the Brain," 1876), the region of the angular gyrus is the psychological seat of vision; but the riper and repeated work of Munk, together with the investigations of Wernicke and Stilling, and the subsequent observations of Ferrier, point very conclusively to the cortical substance of certain portions of the occipital lobe as the centres of vision.

Monocular hemianopia, according to Noyes ("Diseases of the Eye"), can take place only by lesion of one nerve in front of the chiasm. He states that Mauthner reported one such case without autopsy. In the case that forms the subject of this article the temporal side of the field of the left eye was absent; the field of the right eye was not contracted. The blind area was sharply defined, and reached up apparently to the median line.

The electro-muscular contractility was increased, but the patellar reflexes were diminished on both sides. I am not aware that the condition of the reflexes in cerebellar lesions attended with ataxic symptoms has been thoroughly studied. Granting that they are usually increased, which I think is doubtful, the condition of the patellar reflexes in the present case could be accounted for from the exhausted state of the patient invariably induced by exertion, and that only to an extent sufficient for a thorough examination. I have observed in many persons who were in apparently good health the knee jerk to be greatly diminished by exhausting walks.

The recent and interesting experiment of Prof. Luciana, who has succeeded in removing the entire cerebellum of a dog without destroying the life of the animal, will help to explain why the patient was able to overcome, by will-force, her ataxia in walking to a great extent. Herbert Spencer, Jackson, and Ross, believe that the cerebellum has a tonic invigorating influence over the muscles. The experiment of Luciana tends to confirm this view. He found, after the removal of the cerebellum, during the stage of irritation resulting from the operation, that symptoms of incoördination were present; but as recovery advanced, "however, these disappeared, and a kind of muscular asthenia or loss of tone took their place."—(*Medical Record*, Dec. 27, 1884.)

If the sense of taste is located, as inferred by Ferrier, in a portion of the temporo-sphenoidal lobe (subiculum) of the opposite side, I have no theory to offer in explanation of the absence of the sense of taste on the right side of the tongue in the present case, except it occurred through pressure on the chorda tympani nerve, which is the gustatory nerve to the anterior portion of the tongue.

The cerebral temperature observations in this case corroborate the conclusions at which I had arrived from the study of cerebral surface temperature in other brain diseases, viz., "that a high head temperature extending over a considerable period, while the axillary heat was normal or below, pointed to organic lesion of the brain or its membranes;" and further, that I "was not yet satisfied that surface thermometers would enable us to locate lesions in different portions of the brain with sufficient accuracy for general diagnostic or therapeutic purposes"—("Transactions of the College of Physicians of Philadelphia," third series, vol. vi.).

The discussion was opened by Dr. Charles K. Mills, who said that Dr. Hughes Bennett had reported a remarkable case of brain tumor where there was no neuritis, but hysteria was present for many years.

Dr. W. Sinkler spoke of the value of ophthalmoscopic examination in such cases.

Dr. Mitchell said it was very common to have hysterical symptoms in cases of tumors of the brain.

Dr. Lambert Ott said that while in the wards of the Jefferson Hospital, Dr. Eskridge was kind enough to show me this case. When I first saw her she appeared to me as a pale, anemic, simple-minded, hysterical woman. After his examination, she asked him for permission to go home, and before he could reply she burst into a violent fit of crying, which was not appeased by a most favorable reply. After he had repeated some points of his examination, she again made the request, with the same emotion increased in intensity, and no amount of promising could subdue her until she had exhausted herself. The question of headache in cerebellar disease is of interest to me on account of a case I reported in the *Med. Times*, November 6, 1880, of abscess occupying the entire right side of the cerebellum, where there was absolutely no other symptom except a severe headache, which was confined to the right occipital region corresponding to the side of the lesion, and during the violent exacerbations, the pain became diffused, but the seat of intensity remained over the lesion. In Dr. Eskridge's case, the pain was not so much localized, but was more diffused, and mostly confined to the top and frontal region. In other reported cases where the tumor of the cerebellum was large, the pain in the head was more diffused, whereas small tumors and abscesses of the same region produced more or less localized headache.

The next paper read was entitled

Notes on the Idiot Skull and Brain.

By A. W. Willmarth, M. D., Assistant Superintendent Pennsylvania Training School for Feeble-Minded Children.

While fully conscious that the value of statis-

tics depends on their amplitude, and that the number of cases I have to present to-night is comparatively small, yet the literature on the pathology of idiocy is meagre, and even the few cases I shall endeavor to describe in this paper may be of interest to those who have made a special study of the nervous system and its diseases.

Asymmetry of the skull in idiots has received considerable attention. The characteristic forms accompanying microcephalic and hydrocephalic brains are too well known to require any mention here. Slight deformities, aside from evidence they may furnish of former violence, would hardly seem to be of much importance as affecting the soft and yielding brain beneath.

Asymmetry of the vault, with the exception which I will shortly describe, is not of frequent occurrence among our children.

Among the cases in our institution are a noticeably large number who have behind and before the ear (commonly the right) a considerable depression. In a very few of these cases, a second depression exists in the opposite temporal region. Unfortunately it is difficult to obtain facts in relation to the birth of these children. In two cases where depressions exist near the right ear and left temple, a reliable history of a difficult forceps delivery has been obtained. Both of these children, who were among the more intelligent groups, were aphasic. We have been led to believe from these, and from other similar cases, that the violent localized pressure of the valuable obstetric forceps on the fetal head, is not always so harmless as it is generally believed to be.

Hypertrophy of the skull has been found in only one case; the skull in some parts of the section being a full half inch thick.

Our attention has been frequently attracted to peculiarities about the interior of the base of the skull in congenital idiots and imbeciles.

These consist principally of projection of the bony prominences beyond their normal limits, particularly observable in the lesser wing of the sphenoid and the petrous portion of the temporal bone; less frequently stenosis of the foramen magnum is found. This was seen in three cases, two of which were epileptics.

Deformity of the *christa galli* is also common, it being more pyramidal in shape, and bent to the right or left. Even more frequently we find encroachment of the middle and posterior clinical processes on the pituitary fossa, in some cases nearly closing the upper portion of the fossa.

Localized thickening of the membranes with adhesion to the brain is frequently found. In two cases out of fifteen observed, this adhesion was general, and any attempt to separate them brought away portions of the cortex.

Sixteen brains from idiot and imbecile children were deprived of their membranes, where practicable, dissected, drained for one hour, and then carefully weighed.

The average weight was found to be thirty-six and a half ounces. In all but two cases the patient was over fifteen years of age. One brain taken from an idiot boy weighed fifty-one ounces. From its firm consistency we were led to suspect hypertrophy. One child of eleven years had a brain weighing only twenty-two and three-fourths

ounces. In another case, a girl of nine years, the brain weighed twenty-five and one-fourth ounces. Still another, a young man of twenty-two, had a brain weighing twenty-five and one-fourth ounces.

As a rule, in these cases, the weight has been directly proportional to the intelligence of the case to which the brain belonged.

The weight of the cerebellum varied from three and a half to six and a quarter ounces, with an average weight of four and three-quarter ounces. In two cases where the weight of this organ was three and a half and three and three-quarter ounces respectively, both cases were mutes and paralyzed.

According to Sharpy and Gray, the relative weight of the cerebellum and cerebrum is 1.84 in the male, and 1.83 in the female. In sixteen cases, of which thirteen were males, the proportional weight was found to be 1.73, or counting only such cases as were certainly congenital (ten in number), the ratio was 1.7, making a marked contrast between the relative development of the cerebrum and cerebellum.

Clevenger, in an article on the relation of the position of the fissure of Rolando to intelligence (*Journal Nervous and Mental Diseases*, 1880), lays down this rule: If the superior arc of the hemisphere, along the great longitudinal fissure, be divided into ten equal parts, the distance from the tip of the frontal lobe to the superior extremity of the fissure of Rolando, would represent from six to six and a half of these parts.

In seventeen brains measured by me, these distances were as five and three-eighths to ten.

The frontal lobes are often more narrow and pointed, and show a simplicity of convolutive development that forms a decided contrast to the normal brain.

Deficient development in this portion of the cerebrum is most evident in the third frontal convolution, where a small operculum tends to leave the anterior convolutions of the Island of Reil exposed.

In six out of sixteen brains the island was not completely covered. In four cases the exposure was evident on both sides; in two cases on one side only. In four cases it was very slight, in two cases marked.

The case of C. M., an apathetic idiot and mute, presents points of considerable interest. No motor or sensory disturbance was apparent during life, except defective vision. The exact extent of this infirmity we were never able to ascertain during life, owing to his low grade of intellect.

While it was very evident that sight was not perfect, he could certainly see well enough to find his way around without difficulty, and to distinguish objects and persons.

After death the following portions of the cerebral cortex were found thin, soft, and wrinkled: the posterior horn of the lateral ventricle being much dilated, and the undeveloped portions of brain substance not over one-eighth to one-fourth of an inch in thickness.

On the left side were involved the posterior portions of the supra-marginal, the angular posterior portion of the superior parietal, and a considerable portion of the second and third temporal convolutions.

On the right side, the second and third occipital, the angular, the posterior part of the supra-marginal and third temporal convolutions.

The cuneus on either side is very small. In the usual situation of the angular gyrus no normal brain tissue existed; all other portions of the brain below the cortex, supposed to be connected with sight, appeared normal.

In eight out of eighteen brains the cerebrum failed to cover the cerebellum.

Two cases of defective corpus callosum have been found.

I copy the following notes from our post-mortem records:

"L. A., aged nine, mute; can neither walk nor speak; left arm and leg paralyzed; died in an epileptic convulsion.

"The brain, on removal, showed a tendency to flatten out, the hemispheres separating from each other. On pulling them apart, no corpus callosum was found, its place being supplied by a fold of membrane passing from one hemisphere to the other, through which the fluid of the ventricles could be seen. No trace of a septum lucidum or a velum interpositum was found. The anterior pillars of the fornix, instead of joining, passed directly back to the hippocampal region. Anterior and posterior commissures normal. Instead of a middle commissures, the optic thalami were joined together for a space three-eighths of an inch in diameter.

"On making a transverse section of the hemisphere, a projecting process, about three-eighths of an inch in length, was seen on either side, in the usual situation of the extremity of the corpus callosum. The grey matter of the gyrus fornicatus was continued along the upper surface of the process, over the end, growing thinner on the lower surface, and giving place to the ependyma of the ventricle."

A block of sclerosis in the right central region explained the paralysis in the left side.

A smaller block existed in the right occipital lobe; while from the movements of the child, and his manner of turning his eyes, we were led to suspect left hemianopsia; but of this we have no certain assurance.

Another case was H. F., aged eleven. A profound mute; unable to walk; of a very low grade of intelligence. Died of chronic meningitis. The corpus callosum in this case consisted of a narrow band, five-eighths of an inch in width, and not over one-twentieth of an inch in thickness. So slight was the connection, that in using very slight force to separate the hemisphere sufficiently to photograph the parts, it tore apart. Back of this portion the two parts, very thin and having a sharp edge, separated rapidly. The posterior portions were entirely absent. The septum lucidum was absent. Velum interpositum present, but incomplete. The commissures were all present, but very small. The pillars of the fornix were not connected with each other, and followed the same course as in the other brain.

No trace of a pineal gland was found. Development of the corpus callosum must have stopped at an early period of fetal life.

The heart was small, weighing less than two ounces. The right auriculo-ventricular valve admitted the tip of the little finger only by using force.

The genital organs were peculiar. An enlarged clitoris, fully an inch in length. A vagina divided into two nearly equal parts by a longitudinal membranous partition, terminated by a small uterus, much flattened in its antero-posterior diameter, and not over an inch in length. In the upper part of the uterus was a cavity which communicated by separate passages with the two parts of the vagina. Ovaries and fallopian tube normal.

Three cases, all of them confirmed epileptics, have been found with destructive lesions of the hemispheres.

1. A case of paralysis of the right arm and leg, complete in the arm, less so in the leg, with progressive aphasia, which had become nearly complete at the time of death. With the infirmity mentioned, a decided change in his disposition occurred, the boy becoming excessively irritable, and even violent at times. Two patches of sclerosis were found; one in the upper third of the ascending frontal convolution, the other at the junction of the middle and upper thirds of the same convolution. The aphasia was probably due to the lower mass of sclerosis, which extended quite deeply into the brain substance, implicating the fibre leading from Broca's convolution. There was no sensory disturbance in this case.

2. In a case dying of apoplexy, a small spot of white softening was found in the superior parietal convolution near the parietal occipital fissure. There was no symptom that indicated its presence during life except an occasional spasm.

3. A case where atrophy and hardening of the left hippocampus major was found. No accurate examination for symptoms was made during life. We are sure there was no paralysis. During the last months of her life here, with the frequent occurrence of violent spasms, her memory failed fast. Piano playing, of which she was very fond, was gradually given up; not because of inability to use her fingers, but because she could not remember her notes. The same was true of needlework, in which she had been quite expert. She apparently forgot how to do it. To the last she would button a girl's dress neatly and quickly, from which we infer there could have been no decided loss of tactile sensation.

It is in the arrangement of the convolutions that some of the most interesting features are met. In congenital imbeciles, and particularly in idiots, striking differences are found.

One type of brain, in this class of children, is very simple in its outward configuration. The convolutions are usually coarse, but little convoluted, and comparatively free from secondary folds. The fissures tend to assume a confluent type, and as we pass to lower grades of intellect, this tendency increases.

Another variety, found so far among the lowest grades of idiocy, might well be termed an "atypic" variety. The brain previously described as without a corpus callosum, is a marked example of this type. The short description I present can be readily followed by means of these photographs.

In the frontal lobe of the right hemisphere the first frontal convolution is quite regular. Below this, from the centre of the lobe, seven radiating fissures pass in different directions, cutting the

tube into a number of radiating convolutions, entirely different from its usual appearance. The short fissure of Sylvius, about three inches in length, passes upward, turns sharply at nearly a right angle, and passes almost directly backward. Two parallel gyri curve around its posterior extremity. The arrangement of the convolutions of the temporal and parietal lobes are so exceedingly irregular and complex, that it is impossible to classify them. In the occipital lobe, on the contrary, the gyri are complete in number and regular in their arrangement.

In the left hemisphere the arrangement of the frontal convolutions is more regular, but the temporal and parietal lobes present the same complicated area of surface folding, bearing but little resemblance to the normal brain.

The tendency of the convolutions to arrange themselves in parallel curves around the posterior extremity of the fissure of Sylvius, is well shown in this brain of F. N., a boy of exceedingly low intellect. The frontal lobes in this brain are proportionately large, the convolutions straight, especially the third frontal, the fissure shallow. In the left temporal lobe they are nearly obliterated from pressure of fluid in the ventricles. The ascending frontal convolution on each side appears to be wanting. On the left side a large bridging convolution crosses the middle of the fissure of Rolando.

A few other points deserve notice. Confluence of fissure, I have already mentioned as a decided feature of idiot brains. Even where confluence is not complete, the tendency of the principal fissures to cut through separating convolutions is very evident; and should I include in the cases below those where confluence is nearly complete, the number would be considerably augmented. In these cases confluence is complete, and the examination comprises fifteen brains from children of all grades of imbecility.

The fissure of Sylvius passes into the fissure of Rolando, in one case on both sides, in another on one side only. In two other cases they are connected by deep secondary fissures.

The inter-parietalis has its origin in the fissure of Sylvius, in four cases on both sides, in five cases on one side only.

The calcarine fissure passes completely across the gyrus fornicatus; on both sides in two cases, on one side in four cases.

In one case the first occipital convolution sank nearly beneath the surface, the next occipital gyrus projecting over it, forming a partial operculum.

There also seems to be a strong tendency to form annectant gyri in the upper part of the parieto-occipital fissure. In no less than six hemispheres of the fifteen brains were these supplementary gyri found more or less complete.

In one case on both sides, in five cases on one side, we find the parieto-occipital fissure cutting through the first occipital convolution into the inter-parietal fissure. A tendency of the transverse occipital fissure to approach the parieto-occipital fissure is very apparent, though in no case do they coincide.

I will close these remarks without further comment. Why the folds of the cerebral cortex, from a lack of the stimulus of healthy growth, should assume the forms we have seen them possess,

sometimes reverting to forms resembling those found in other groups of the animal kingdom, again forming a tangled group bearing little resemblance to what we usually find on the brain surface, we can scarcely venture to attempt to say.

While in a few cases lack of development or coarse lesion, which can be recognized by the unaided eye, may readily account for the loss or congenital want of mental power, in more instances grave impairment of brain-power exists without commensurate lesion, and in the microscope, if in anything, we shall find the means of unravelling the mystery.

The paper was discussed by Drs. Charles K. Mills and A. J. Parker.

The following cases were shown to the Society by Dr. S. Weir Mitchell:

Atrophy of Upper Half of Body with Well-Developed Lower Half.

Case 1 was that of a girl eleven years old in which her limbs were well developed, while the upper part of the body was atrophied.

Two Cases of Spinal Disease with Unusual Symptoms.

Case 2. Patrick M., set. 50, Irish, married; no specific history; no previous illness; fell wheeling barrow three years since; no injury to spine. Soon after noticed burning pain in left foot. Two months after, fell again without warning while in house. Soon recovered and went home, and to work twenty-four hours after. Worked with difficulty six months; stopped, and has grown gradually worse ever since. Pain, heat, formication in legs. Occasional spasmodic rigidity in legs at night. No loss of sensation. Faradic reactions normal. Ankle clonus, patellar reflex exaggerated. Cremaster, abdominal, epigastric, and scapular reflexes present. Reflex action on percussion of deltoid, biceps or triceps tendons, or extensor tendons at wrist. The chin reflex, noticed by Dr. M. J. Lewis is present. Sensation in legs is peculiar. On the foot and ankle, and part way up the lower leg, a needle prick was felt as a prick, and perfectly distinguished from a touch. The surface was analgesic, but pain was produced on deeper pricking. From the middle of the leg up, the sensation improved gradually to the level of the eighth dorsal vertebra; above this, it was natural. The prick, or a pinch, or sometimes even a touch, produces spasmodic jerk of muscles; if touch on leg, of soleus; on thigh, of quadriceps; great exaggeration of all reflexes. Ankle-clonus. Tetany if blow on patella is repeated; "spinal epilepsy" (Brown-Séquard); epigastric and abdominal reflexes present. A weak faradic current applied to the nerves produced normal contractions in the supplied muscles; contraction, by direct application, like normal. Thickening of skin and areolar tissue of leg, somewhat like Mrs. S., but here appears to be atrophy of muscles.

Case 3. Mary M., 18, U. S., mill-hand, family history good, except that her father died of consumption. The patient has never had any serious illness. About two years since she discovered on the left side a spot which she does not describe as painful, but says that she had a "curious feeling" in it. Soon after, at a party, she wished to dance, but found herself so lame

in the left leg as to make dancing impossible. The toe dragged when walking, and the feebleness of the leg increased slowly, spreading from below upward. At the end of a year the right leg began to weaken, first in the thigh, and then gradually downward, until she was unable to move about or stand without assistance. This complete loss of power has now lasted about eight months. She is, she says, weak in the back, and has sometimes numbness of the inner side of the forearms and hands. She can assign no cause for the trouble.

Dr. Morris J. Lewis made the following remarks on

The Chin Reflex. A New Clinical Observation.

In the winter of 1882 while examining at the Infirmary for Nervous Diseases connected with the Orthopaedic Hospital, Phila., a case of section of the inferior dental nerve, I discovered a new reflex. For report of case see *Phila. Med. News*, March 11, 1882. This consists of a sudden elevation of the lower jaw immediately following a blow upon the lower teeth, or chin, and is most easily produced by striking the parts mentioned in a downward direction with a rubber plexor. The mouth of the patient is of necessity open, and the muscles should be relaxed.

Since then I have observed this symptom in two cases of spastic paralysis, one case of congestion of the spinal cord, one of cerebral tumor, probably specific, one of hemiplegia, one of unilateral tumor of doubtful origin, and occasionally in perfectly healthy individuals.

In some of these the reflex was plainly due to a contraction of the temporal muscles, while in others the masseters seemed to be mainly instrumental in causing it. The clinical significance of this symptom is not as yet clear, but I wish to place it upon record, and to direct attention to it, hoping later to be able to report more fully.

Gowers, in his "Diseases of the Spinal Cord," mentions that irritation of the skin in the intrascapular region gives us the highest reflex available; the chin reflex is therefore of considerable interest, as being, as far as I am aware, the highest deep reflex yet discovered.

LEWIS BRINTON, M. D., Recorder.

Vaseline in Pastry.

From a foreign exchange we learn that at a recent meeting of the Council of Hygiene and of Salubrity of the Department of the Seine (France), M. Alfred Riche read a report concerning the employment of vaseline in pastry as a substitute for grease or butter. The reporter stated, in the name of the commission charged to investigate the matter, that however advantageous the use of vaseline may be to vendors of pastry, inasmuch as it prevents the latter from becoming rancid, it is nevertheless, used for that purpose, injurious to health. Moreover, as vaseline does not possess the nutritive qualities of fat or butter, and as the action of the derivatives of petroleum on the economy, particularly on the digestive apparatus, is as yet but little understood, the Council have recommended the interdiction of the employment of vaseline for alimentary purposes.

EDITORIAL DEPARTMENT.

PERISCOPE.

Cases of Prurigo (Hebra's).

Dr. C. Handfield Jones thus writes in the *London Med. Times*, February 28, 1885:

Case 1. J. L., æt. 17, errand boy, admitted Nov. 8, 1884. Father died of consumption, mother living. Is a stout looking lad. No history of scrofula or syphilis. Does not remember having any serious illness, suffers from cough occasionally, and from rheumatic pains in shoulders and loins. Has occasionally some asthmatic paroxysms, which are apt to come on when his skin disease is better. His present illness commenced $3\frac{1}{2}$ years ago, when he was working in a bakery. Was treated at St. Mary's as out-patient, and afterwards was admitted, and placed under the care of Dr. Cheadle. At date of admission he had been suffering for eighteen months. He remained in the hospital thirty-five weeks, and left much relieved. He then got employment at a dyer's, and after two months the eruption came out again. At present both his legs are covered extensively with eruption, which affects chiefly the extensor surface of thighs, legs, and arms. There is also a large patch on the front of his upper chest. His skin is very tough and hard, and in the affected parts more or less rough and red and thickened. Some discharge occurs, which stiffens linen. The affected parts itch severely, especially when he is warm in bed at night. One of his nails is marked by furrows. No albumen in urine. Some cough. Some pityriasis of scalp. Is otherwise healthy. Ordered a full warm bath with patent size every night, and a tobacco lotion, gr. 20 ad. $\frac{1}{2}$ x., to be applied in the day to the itching parts. Improvement had commenced by November 13th, but was interrupted by my ordering ungt. staphisagrie in place of lot. tabaci, which coincided with a worse state of eruption and increase of itching. 18th.—Eruption looks much better, ungt. zinci is very agreeable, more soothing than the lotion. Bismuth ointment is not more effectual than zinc. November 27th.—No itching, sleeps well. He was discharged on December 12th very much relieved. His temperature in seven observations was normal. Phosphori gr. $\frac{1}{3}$, *ter die c. cibis*, was administered internally during his whole stay in hospital.

Case 2. B. Ph., æt. 15, milk-boy, admitted April 4, 1884. Father dead, was subject to same eruption as patient, so is his eldest brother. The other members of the family are quite healthy. He has had the malady more or less since birth, but it did not become very bad until two years ago. He attended as out-patient for nine months, was then better, and ceased attending. Got worse subsequently, and was advised to become in-patient. Has had no other illness during his life. Generally after much exertion, and getting hot thereby, he has difficulty in breathing and hurried respiration. This lasts from one to twenty-four hours at different times; he does not feel ill, but occasionally diarrhoea comes on with

or soon after the attacks, and lasts a day or two. Eruption discharges at night when he is warm in bed, or is warm from other causes. Appetite good. He looks bright and fairly healthy. Says he is very well. Pulse 84, irregular. Skin dry and harsh, is thickened generally, and presents brown scaly patches on feet, legs, front of thighs, back, upper third of abdomen, forearms, front and back, front of right arm. Temperature 100.2°. Heart and lungs fairly sound. Rhythm of sounds at apex not regular. Urine s. g. 1025, no deposit, no albumen. Much itching. Ordered gelatine warm baths o.n. Lotion glycerini, ol. morrh., $\frac{1}{3}$ j. *ter die*.

On 10th, ungt. staphisagrie was ordered, which he used four days without any good effect. Ant. pot. tart. gr. $\frac{1}{2}$ + tr. calumbæ, $\mathfrak{m}\mathfrak{v}$., + aq. $\frac{1}{2}$ j. *ter die*.

21st. Improved, eruption disappearing in all parts, itching ceased. Antimony caused nausea at first, but not now.

24th. Much improved, eruption almost gone from all parts except outer edges of legs and arms.

May 3. The eruption which lingers on the legs and arms is more the result of scratching than true eruption. Bowels act regularly every two or three days, but has colicky pain after defecation. Phosphorus, gr. $\frac{1}{3}$ *bis die* commenced on May 1.

5th. Had an attack of shortness of breath today, after getting up in morning.

8th. Omit. antimonium. Went out June 4 much relieved. He was readmitted September 8, with recurrence of skin disease. Musical sounds were heard in both lungs, in fronts and backs. Heart's sounds normal. Ordered warm gelatine bath o. n., and phosphorus gr. $\frac{1}{3}$ *bis die post cibos*.

September 11. Skin at back of calf and in popliteal space of both legs looks angry, but causes no pain, except smarting on entering the bath. No trouble in breathing. Pulse 96, regular.

October 9. Hardly any itching, no eruption.

October 13. Cough rather troublesome in night. Urine neutral; no albumen.

15. Legs same, arms not so well. Had asthma this morning for about an hour.

23d. Arms and legs better. Bowels constipated; headache.

October 30. Discharged, cured (?). Temperature normal.

Remarks.—The first of these two patients does not appear to have inherited his prurigo; it made its appearance between the thirteenth and fourteenth year of life. In the second, the disorder, or the tendency to it, was evidently transmitted from the father to two of his sons, and its external manifestation dated almost from birth in B. Ph. Hebra refuses to allow that prurigo is an hereditary affection, but this view is too extreme. In both cases the disorder was inveterate, being relieved for a time by treatment, but soon recurring again in full force. In both the patient was subject to attacks of quasi-asthma, which were more prone to appear when the cutaneous disease was brought into abeyance. In both the general

health, apart from the irritation of the skin and bronchial membrane, was good. Only in case 2 some similar derangement of the intestinal mucous surface was occasionally associated with the pulmonary. The eruption itself was rather of indeterminate character, and had it not been for the severe itching, the obstinate tendency to recur, and the associated asthma, one might have hesitated to pronounce positively on the diagnosis. Hebra remarks (p. 259, Syd. Soc.) that "there are many cases of prurigo which may at first sight be taken rather for some other affection—for ichthyosis, eczema, impetigo, or ecthyma, from the peculiar and characteristic features of the disease being obscured by other more obvious symptoms." He prefers to be guided not by what may be seen here and there on the skin, but from the *general impression* which the eye should always be trained to receive. The diffused roughness, harshness, discoloration, and thickening of the skin were, with the other symptoms, decisive in my cases. As to the pathology, we may agree with Hebra in rejecting the popular notion of "acidities and acrimonies" as the cause of prurigo, but it is by no means certain that his own view is any better founded. He regards a pruriginous papule as a local lesion, originating primarily in the skin, which gives rise to itching by the pressure of its fluid contents—a minute drop of blastema—on the nerves of the cutaneous papillae. He affirms that it is "only at those places where papules appear that itching is felt," that without papules there is no itching, at least in true prurigo, though he admits that "there certainly are cases in which itching is first felt, and consequent scratching produces all the visible appearances on the skin." But these are different pathemata, and he draws a marked and exact distinction between pruritus and prurigo properly so-called. Hebra's hypothesis seems to me opposed by the non-occurrence of itching in common pressure bullae—as from rowing or walking—as also in herpes labialis, varicella, and varioloid. Dr. Tilbury Fox maintained strongly the opposite view, that the basis of prurigo was a paresis, a disorder of the nervous element of the skin, that it was in fact a neurosis. He writes, "Since the intense itching is often the sole, as it is the primary and important thing present, other phenomena observed in the skin are secondary." The same view as to the essential importance of primary nervous system derangement had been previously maintained by Cazenave and others. If Hebra's statement as to the necessary dependence of itching in prurigo on the pre-existence of papules was established, it would be an important point; but, as we have seen, T. Fox denies it positively, while Hilton Fagge remarks that it is almost impossible to feel certain on this point, since we scarcely ever see prurigo cases before the skin has been scratched. Mr. Hutchinson, with his vast experience, actually questions whether Hebra's prurigo is met with in English practice, and is half-inclined to deny that there is any malady deserving the name of prurigo, and to affirm that "we ought rather to think of pruriginous irritation as a symptom which may attend a large number of different skin diseases." It seems to demand explanation on Hebra's view, why, since the scabies eruption produces itching in remote

parts as well as *in loco*, the prurigo eruption acts so differently? The essence of Hebra's view seems to be that in prurigo the local lesion is everything, and the general condition goes for nothing. Hence, he consistently affirms that "external remedies alone are of any use in prurigo." But the existence of winter prurigo, and of summer prurigo, as well as of prurigo uninfluenced by weather or climate (Hutchinson), goes far to negative the above dogma. The papular eruption must be identical, one would think, in all; but there is something else to be considered, probably the nervous system, on the peculiar state of which the result very largely depends. Until I met with the two cases recorded in this paper, Hebra's prurigo was scarcely known to me. They seem fair instances of it; but have the interesting feature, which Hebra does not notice, of pulmonary (or intestinal) disorders alternating to some extent with the cutaneous. This seems to me absolute proof that the morbid action was not merely local, but to some extent at any rate general. In the *Lancet* of July 6, 1867, I have mentioned a case where severe pruriginous itching suddenly ceased, and was replaced by melancholia. Metastases of this kind, where one nervous disorder is succeeded by another at a remote part, can scarcely be regarded otherwise than as neuroses. As such I certainly reckon my two cases. All instances of pruriginous disorder may not be alike; to some, Hebra's view may be fairly applicable; but in the great majority the nervous system seems profoundly implicated, and to recreate deteriorated nerve-force seems to me a rational object of treatment.

REVIEWS AND BOOK NOTICES.

NOTES ON CURRENT MEDICAL LITERATURE.

—An excellent and lucid chart, showing the condition of the urine in disease, has been published by Dr. C. F. Taylor, of this city, editor of *The Medical World*. The author is Dr. Louis Lewis, and the present is the second and revised edition. It gives the qualitative tests, specific gravity, reactions, and therapeutic notes. The chart is very neatly framed, and is a handsome addition to every office.

—Dr. L. Duncan Bulkley, in a reprint before us, advocates in strong terms the pursuit of specialties in the medical profession. His arguments are convincing; indeed, we may say they are so convincing as to be unnecessary. He must be a very much fossilized member of the profession who nowadays would oppose a reasonable specialization of medical practice. Yet, like all good things, it may be carried to a hurtful extreme. For a young graduate to select a specialty, and work at it exclusively, before he is well grounded in general medicine, is a serious error.

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MIKULICZ'S NEW OSTEOPLASTIC OPERATION.

The new osteoplastic method of resection as invented by Mikulicz, consists in fitting after enucleation of the tarsus bone from the sole, the upper half of the tibio-tarsal joint to the anterior Chopart's connection. Dr. N. W. Sklifosowsky, in the *Rev. de Chirurg.*, 1885, 2, ascribes the invention to his countryman, Wladimiroff, for the latter recommended the operation (1872) before the Russian Society of Natural Scientists, having successfully performed it on a case that he presented at the meeting. S. besides adds one more case to those already reported. It concerned a patient set. 30, in whom the operation was not performed on account of caries, as has usually happened, but for epithelioma of the ankle, which was directly referred to an external injury, received by the patient eleven years previous. At the time of the writing of the report, the patient had already been trying for several days to walk about, and the success, at least as far as the method and the operation itself were concerned, was a complete one.

This new operation seems to have many advantages. First, less tissue and bone substance is removed; then the mobility and usefulness of the ankle are far better retained; and lastly, the healing is easier and more rapidly established. It appears to be applicable in all cases where Chopart's operation has generally been performed. It is one of those operations whose perfect success can be assured only under thorough aseptic precautions.

THE EFFECT OF LIGHTNING UPON HUMAN BEINGS.

Dr. Heusner had the opportunity to study the effect of lightning upon a large number of human beings. He has recorded his experience in the *Wiener Med. Blatter*, 1884, Nov. 4.

In the neighborhood of Bremen twenty persons had been struck by lightning; four of them were killed outright, and the remaining sixteen were injured more or less. Most of those who recovered, had later no recollection whatever of what had happened to them; some remembered the exact

moment, and the sensations which they had experienced at the time. Those of the latter class all spoke of a feeling as if some heavy object had struck their head or the nape of their neck. The skin of all showed irregular burns, from which red lines branched out over the extremities and the trunk, in a manner as the teeth pass off a comb. Of decided interest is the observation already previously made and confirmed by Heusner, that even grave wounds of the skull need be but of relatively small importance to the brain, notwithstanding vomiting in the beginning and utter want of recollection regarding the occurrence; and notwithstanding a great debility, which remained for many weeks later, a boy completely recovered who had received a burn in the middle of the forehead, which penetrated through the whole cutis to the bone.

Those struck by lightning evinced a cadaverous hue; the features were distorted, and the extremities showed a surprising coldness. Very interesting also was the morbid condition found in a woman; she had about twenty burns, from the size of a pea to that of a ten-cent piece, on the soles of her feet, besides two larger and deeper ones near the head; the former spots evidently resulting from the lightning, making its exit through them from the body. The woman was found dead. Whenever there seems to be evidence of the current having passed through, instead of perhaps around the body, the effect of the lightning always appears to be a fatal one.

EFFECT OF PHOSPHORUS ON THE FÆTUS.

Dr. J. M. Minra (*Virchow's Arch.*, xcvi., 1,) has recently made a series of interesting experiments for the purpose of determining whether in cases of acute intoxication by phosphorus of pregnant animals, the poison is also communicated to the fetus. Four such observations were made on pregnant guinea-pigs, they receiving in two doses, after two days' fasting, one drachm to ninety minims of a five per cent. phosphor oil. Three to four days later the animals experimented upon were killed by an injection of morphia into the

external jugular vein. In all the cases, fatty degeneration of the liver cells, of the muscle of the heart, of the epithelium of the kidneys, and of the gastric follicles, were observed on the animals, as well as on the fetus they contained. In one fetus many ecchymotic spots were found on the mucous membrane of the stomach. Icterus was not met with in any of the cases, probably in consequence of the comparatively small doses. In the animals specially kept for control-experiments, not a single one of the morbid alterations met with was to be observed.

Basing his opinion upon the results thus obtained, M. thinks that the administration of phosphorus in the case of pregnant women should be accompanied by the greatest care, as the co-affectation of the fetus is to be feared in every case, and this may be followed by the gravest consequences.

NOTES AND COMMENTS.

Recovery from Fracture of the Skull.

Recovery from fracture of the skull, when the question of the accuracy of the diagnosis is not open to question, is sufficiently unusual to warrant all possible publicity for such cases. Therefore, we note that in the *London Med. Times*, April 11, 1885, Mr. T. G. Parrott reports the case of a young man aged twenty-two, who while at work decorating a ceiling, fell a distance of about nine feet, striking his head on the boarded floor. He was conscious for a short time after the accident, and was brought in a carriage as soon as possible to the hospital. His state on admission was as follows: He was carried in, insensible and pallid, with cold extremities, blood pouring out profusely from the right ear, of a bright red color, and projected with a well-marked pulsation. He moved his arms and legs, and evinced pain on pressure over the right parietal region. After he had been put to bed, he vomited up a large quantity of food and bile, mixed with a little blood. The pupils were dilated, but sensible to light; the eyes closed, but he opened them once or twice afterwards; some twitching of the nose. When spoken to in a loud voice, he seemed to hear, and answered with a groan. Pulse, 56; temperature, normal. He passed water later. The ear was plugged, and a pad and bandage applied, but these were soon saturated with blood, and had to

be changed several times. An ice-bag was applied to the head, and hot-water bottles to the feet. In the evening a turpentine enema was given, and a mustard-plaster was applied to the epigastrium.

The accident occurred November 11, 1884. On December 3, 1884, a fluctuating swelling behind the right ear was opened, and a large amount of pus escaped; slight discharge of blood from ear afterwards. Drainage-tube placed in wound. Six grains of quinine given every day.

On January 16, 1885, he was discharged, comparatively well, complaining only of some deafness of right ear.

There seems little doubt but that this was a case of fracture of the middle fossa of the base of the skull, extending from side to side. The symptoms leading to this conclusion were the profuse hemorrhage from the ear, followed by equally profuse suppuration, the paralysis of the third nerve on the right side, and the prolonged convalescence. The good result seems due to the fact that the patient was young, steady, and of good constitution.

Antimonial Wine in Diseases of the Skin.

This drug, which has fallen into disuse in this connection, was at one time quite extensively used, as we learn from an admirable paper by Dr. John Kent Spender, in the *Practitioner* for March, 1885. He says that a therapeutic chord which had long slumbered was made vocal again when Mr. Malcolm Morris read a paper at the Liverpool Congress of the British Medical Association on the "Utility of the Tartrate of Antimony in the Treatment of Certain Diseases of the Skin." He asks: "What is there to prevent tartrate of antimony from taking its proper place in the therapeutics of the skin? Is there any *a priori* objection? All authorities agree on the influence of that salt over acute bronchitic and pneumonic diseases. The physiological anatomy of skin and of mucous membrane is so far identical, that their pathology must be to a large extent identical too. In acute dermatitis and in acute bronchorrhœa there is the same proliferation of epithelium, the same wasteful flux of serous or sero-purulent fluid. Now if tartrate of antimony controls the one, surely it may control the other; the outside of a man is as delicate as the inside, in its obedience to its same laws of growth and of decay; and we should see the analogy without difficulty if the characteristic features of the diseases of the skin were not veiled under an artificial terminology, based upon fanciful resem-

blances to other things. Words and phrases, drawn from confused metaphors, should not allure us from tracing the hidden agreements of apparently different diseases, for the right use of many remedies may depend upon this. Tartrate of antimony has no partiality for any special texture; its eclectic power makes it helpful in stopping the evolution of the inflammatory process anywhere—equally in solid glands and on free surfaces. And as inflammation may occur wherever there are nerves and wherever there are blood-vessels, so the remedial force of tartrate of antimony is co-extensive with every tissue of the human body."

The doses must be small, and comparatively frequently administered.

Dr. S. relates a most obstinate case of psoriasis that yielded to antimonial wine after resisting all other remedies. Since skin diseases are oftentimes so obstinate, it is well that we should bear this observation in mind.

Aneurism of Splenic Artery.

To the Pathological Society of London (March 17), Dr. Samuel West showed a specimen from a man aged 56, who died from hæmatemesis. He had suffered from a severe attack on another occasion fourteen years previously. About Christmas 1884, and subsequently, he had been drinking freely, and suffered from diarrhœa. On January 21st, he passed a large quantity of blood by the bowel, and, on the following day, when in the hospital, a tarry motion. He was a spare, muscular man, very blanched. The only diseased condition detected, on physical examination, was an enlargement of the liver. On January 28th, he suddenly vomited a pint of bright blood, and died in a short time. At the necropsy, the stomach contained two pints of bright blood. There was an ulcer on the lesser curvature; its base and edges were thickened. A small aneurism projected through the base of this ulcer, and from this the hemorrhage had proceeded. The mucous membrane was otherwise healthy, except that at two points there appeared to be scars of two superficial ulcers. The liver and kidneys were cirrhotic. Aneurism in the floor of a gastric ulcer appeared to be a rare condition, as only two other cases had been recorded in the *Transactions of the Society*. A point of some importance was the fact that great pain preceded the hemorrhage.

Dr. T. Barlow had examined a case last autumn which very closely corresponded to the case described by Dr. West. A large ulcer, three inches in diameter, was found in the stomach. The

pancreas formed part of the floor of this ulcer, and in the middle was an aneurism of the splenic artery, about the size of a pea; this had ruptured, and given rise to fatal hemorrhage.

Dr. Norman Moore thought enlargement or aneurismal bulging of the pancreatico-duodenal artery, in cases of ulcer of the stomach where fatal hemorrhage had occurred, was not uncommon.

NEWS AND MISCELLANY.

American Medical Association.

At the 36th annual session of the American Medical Association, held in New Orleans, April 28, 29, 30, and May 1, the following papers were read:

The "President's Address," by Dr. Henry Fraser Campbell, of Georgia, in the course of which, speaking of the position of expert medical witnesses in court, he said: "That the position of the medical witness, and, to a certain extent, all professional and expert testimony before the courts of law, is anomalous, and often one of false relation to justice, as well as to the ends of humanity, and sometimes mortifying to the pride and self-respect of the deponent, few will deny; for but few have been so fortunate as to escape the annoying experience of being at one time or another the subject of such arraignments—happy has he been who has had only his intelligence and his integrity assailed, and happy, too, that no malpractice suit has deprived him of his liberty and living as well.

"My object is more to bring the position of the medical man summarily before you, as he stands in his several relations to the tribunals of law, rather than to describe minutely that with which we are already familiar, or to present elaborate arguments to establish the existence of evils of which we are already convinced. I will, therefore, briefly refer to only a few of the more prominent rôles in the forensic drama (too often a farce), in which he is often forced to play his part, and in which, though he may be repeatedly *encored*, he seldom elicits applause.

"At the present time, and in the eyes of most communities, the plane to which the medical deponent and expert has at last gravitated is but little above that of the ordinary, if not the partisan, witness. The light of scientific truth he sheds is even sometimes suspected as coming with bent and refracted rays through the distorting lens of self-interest and a paid opinion. From circumstances which condition his testimony, he seldom now occupies in this country the honorable position of *amicus curiæ* or friend and instructor of the court on scientific questions, upon which may rest an important judicial decision. He is almost invariably presented as the medical witness, or the medical expert, in behalf of one side or other of the case upon trial. He is cited to appear as a witness in its behalf more frequently, not because he possesses superior knowledge of the scientific truths about which his tes-

timony is to be conversant; not because his medical opinion *per se* is entitled to more confidence than that of another, and still less frequently—we could hope, never—because he has been suborned; but he is often selected because, with a certain standing in the community, he is known to hold opinions, or, on the representation of the attorney, can be made to adopt opinions, favorable to the side on which he is to depose. Quite often his only claim to the character of a medical expert depends upon a summons thus conditioned. The reliance upon medical testimony and, in time, confidence and respect for the medical profession, must necessarily be depreciated by such exponents of them both.

"Professor Washburn, of Cambridge, quotes the following words of Lord Campbell in addressing the House of Lords in regard to scientific testimony in general: 'What are called scientific witnesses come with such a bias on their minds to support the cause in which they are embarked, that hardly any weight should be given to their evidence.'

"Without further general remark, I will here refer more or less briefly to the three principal positions or attitudes in which, as professional men, we most frequently stand related to the tribunals of law, viz.: first, as the medical witness; secondly, as the medical expert; and, thirdly, as a defendant in suits of malpractice.

"In each one of these relations it could readily be shown that the medical man labors under disadvantages which do not, in the same degree, embarrass either the testimony or the defence of any other class of citizens. This is not the occasion to enumerate them, much less to put them under discussion. They have been long and fully recognized by the members of our own profession, while some of the most profound and astute minds of both the bench and the bar have diligently studied and yet have failed to remove them. For the deponent, whether medical witness or expert—and here we can consider them together before the jury—these difficulties often arise from the unlimited number and diversity of facts, and sometimes of principles, necessarily used as predicates for medical induction, and from the unavoidable complexity apparently connected with the reasoning by which conclusions, often perfectly legitimate, are arrived at. Thinking in technicalities, he is yet called upon to express himself in the plainest vernacular, often before an ignorant jury, or at least in terms simplified for the ready comprehension of non-professional minds.

"This last requirement is often violated; not always from a pedantic inclination, but from embarrassment under the novelty of the situation, and from the little familiarity with and thought given to questions in forensic medicine, and to the object of medical testimony as being instruction to the jury. He may be like Moses, 'learned in all the wisdom of the Egyptians,' but if he deposes only in the Egyptian dialect, only an Egyptian jury can be enlightened by him.

"Not alone in our own country, but at a still earlier date, and apparently with even a more sedulous care, have the forensic wisdom and ingenuity of foreign judicatories been exhausted in various attempts to elevate the position and to render more

available to the ends of justice and equity the scientific witness and expert. Prussia, recognizing the evils of ignorant and unworthy experts in the medical profession, as well as in all others, from which scientific testimony has to be elicited in grave questions pending before the courts, has a toxicologist appointed by the government, and a permanent commission of experts in matters connected with medical science. In Scotland, medical witnesses are said to deliver their examinations in writing, but are subjected to oral cross-examination before the court; in France, the judges decide who shall act as experts in certain cases, also what questions shall be submitted to them, the answer being returned to the jury in writing; 'and practically it is said to have the weight of conclusive evidence.'—*Washburn*. 'In England,' continues Professor Washburn, 'much speculation and various schemes have been suggested for obviating the objectionable features of expert testimony, but thus far without the adoption of any system.'

'It will be seen that all these efforts, both in the United States and in the several countries of Europe, comprehend all scientific experts, and among them the medical deponent. They are not made in behalf of the witness, either to elevate his position or, except incidentally, to recognize the high order of his testimony, but only to guard against his ofttime ignorance and unworthiness, and to make his testimony available to the courts. In most of the European courts mentioned, however, there is an incidental protection given to the scientific medical witness, from the assaults and indignities offered by the examiner and the advocate.

'In the United States, even, this incidental protection is rarely enjoyed by the medical profession. Often each side calls its medical expert, and his testimony, whether scientific or ignorant, impartial or partisan, is dealt with in open court by the advocates and examiners, at whatever cost to the witness, so that it can be made only to subserve the interest of one or the other side. Quite often the cause of justice is lost sight of, the significance of the deposition perverted by the artful methods of the examiners, and the casting of doubt on its credibility by the advocate. He is, as a witness and also as an expert, subject in his disposition to the arbitrary, and sometimes offensive, and often irrelevant interrogation of the interested attorney, whose duty it may become to misinterpret or to suppress the significance of his testimony, and not infrequently to wrest it to the ends of that which, though the common practice of the law, are not the ends of equity and justice. In this way can the profoundly scientific and strictly-conscientious medical witness or expert, on account of the inherent difficulties of his deposition, as before stated, more than any other class of witnesses, be made to appear to the average jury and to all ordinary minds present in the light of a crafty charlatan—the tool of some hidden interest guiding and directing his testimony.

'Albeit, the situation is one of grave and deplorable falsity and humiliation, I may here, for its aptness, perhaps not improperly indulge in what might otherwise be considered a facetious illustration of this perversion and suppression of medical testimony to the nullifying of justice,

and, 'for the nonce,' to the degradation of the medical witness and expert in the eyes of the jury and 'all spectators.' The incident is accurate in all essential particulars.

'The case was one in which the wife had been accused of causing the death of her husband by poison—all attendant circumstances and testimony in the case confirmed the suspicion; and, lastly, arsenic had been found in abundant quantity, by careful and laborious analysis, in the stomach and tissues of the dead man. The medical expert was one of the most conscientious and distinguished members of our profession, and a founder of this Association; and, withal, 'as mild a mannered gentleman as ever'—had his throat cut, or his testimony scuttled, before an American jury. The advocate for the defense was one whose name, if mentioned, would at once be recognized by all present as one of the leaders of the American bar, and a statesman of the land; and withal, one of the most powerful criminal lawyers that ever swayed the minds of a jury in behalf of the accused.

'Scene.—The crowded court-room many counties distant from the homes of both the medical witness and the advocate.

'Lawyer: 'Are you a physician?'

'Medical Witness: 'Yes.'

'L.: 'You are a professor in — College?'

'M. W.: 'Yes; Medical College of —.'

'L.: 'What Chair do you hold?'

'M. W.: 'Chemistry and Pharmacy.'

'L.: 'Are you in the habit of analyzing for arsenic?'

'M. W.: 'Yes.'

'L.: 'Do you often find it in cases when called upon for your testimony in court?'

'M. W.: 'I have repeatedly found arsenic or other poison in the stomach of such persons.'

'L. (with emphasis): 'Have you ever failed to find the poison?'

'M. W.: 'It has so happened that in the cases I have examined, the existence of poison had been circumstantially made out, and my analysis established the fact.'

'L.: 'You have always detected the arsenic, Doctor, in such cases?'

'M. W.: 'Yes.'

'L.: 'May it please your honor, we are satisfied with the witness.'

'Medical witness retires.

'This was the cross-examination, and this lawyer for the defendant had the closing argument. No further questions were asked the witness. He had shown to the satisfaction of all intelligent persons present that he had, in a most scientific, conscientious, and expert method, supplied the last and convicting link in the unbroken chain of evidence required to establish the guilt of the accused.

'This was the attention the lawyer gave to this medical expert testimony:

'Now, may it please the court, as to this medical—what they call "expert testimony." Consider the facts: He is a doctor; he is a professor in a college; his chair is chemistry and pharmacy.

'Gentlemen of the jury, he is in the habit of testing for poison—he is the arsenic hunter and arsenic finder for his college, and, you see, he is

a good one; he *always* finds the arsenic. He is obliged to find it—it would ruin his college and ruin him if he did not find it; but, gentlemen of the jury, I appeal to you as intelligent and scientific men, you are not going to allow my innocent, unfortunate client to suffer to support the credit of that college!

"The murderess was acquitted by the jury almost without leaving their seats, as any one who knew the giant of an advocate she had might well have expected.

"This was *perversio veri*, as well as *suppressio veri*—not by the witness, but by the lawyer. The medical deponent was, in his own way, almost as great a giant as himself, but he was a doctor in the court, and there he was a giant bound."

A report eulogistic of the life and services of the late Professor Gross was then presented by Dr. T. G. Richardson, of New Orleans.

Dr. J. S. Billings, U. S. A., in behalf of Dr. Austin Flint, of New York, who was unavoidably absent, presented a report from the Committee to Secure a Congressional Appropriation for a Fire-proof Building for the Army Medical Museum and Library.

He stated that through the efforts of the committee and the individual aid of the members of the Association, Congress, after having had the subject under consideration for four years, at its last session granted the requisite appropriation for the erection of the building, and the work will be commenced at once. The building will be located on the Smithsonian grounds, near the National Museum, and will be a plain but substantial structure. On behalf of the Surgeon-General, he extended thanks to the committee and to the Association for their confidence in the present management of the Library and Museum, as shown by their continued and earnest endeavor to secure this appropriation.

Dr. Billings also, in behalf of Dr. Flint, chairman of the committee appointed at the last meeting to present at Copenhagen an invitation, "on behalf of the Medical Profession of the United States," to the International Medical Congress to meet in Washington, in 1887, with power, if accepted, to make all necessary arrangements therefor, reported that the invitation had been tendered and accepted; that meetings of the committee had been held in Copenhagen in August, in New York in October, and in Washington in November, and the result of their preliminary work was stated. He further stated that the committee expected to be prepared to present a full programme for the Congress at the next meeting of the Association.

Dr. W. D. Didama, of Syracuse, delivered the "Address in Medicine," in the course of which, speaking of the "*vis medicatrix*," he said:

"Now, while we are familiar with this reparative power, we may not be so attentive to another conservative force, which is especially important: The Resisting Power. From the *vis medicatrix* this power differs essentially. One is a restorative force—a tendency to come back to the normal condition after departure from it. The other is the conservative force, which prevents departure. A steel spring yields readily to external force, but its elasticity—after the disturbing cause is removed—enables it to resume its original condi-

tion. This is the *vis medicatrix*. Granite rock is not easily affected by external violence. Its power of resistance is great. When the force brought to bear upon it is strong enough to cause it to yield, it goes to pieces, having no recuperative power. There may be great toughness, combined with great resisting power. The iron-clad vessel when struck by ponderous ball or steel bolt, may be perforated, but it is not hopelessly shattered.

"This resisting power is akin to what is called inertia in physics—the tendency of a body in motion to keep going; of a body at rest to remain quiet forever. Light bodies with little substance are easily set in motion, and easily deflected from their course, or arrested in it. A feather can be wafted or stopped by the lightest breath. A cannon ball, an avalanche, are turned aside by no obstacle; they move onward to their destination.

"Every human being has more or less of this resisting power. It may be feeble, and yet so united to a recuperative force, that the individual possessor manages to get along fairly well. Any trifling mishap or exposure may prostrate him, as a reed may be shaken in a moderate wind; but his elasticity, like that of the reed, brings him up promptly when the storm ceases. He has his frequent ups and downs; we all know many such cases; he is delicate of constitution; he may be like an estimable old lady of my acquaintance, at the point of death at odd spells for thirty years; and yet he lives on by virtue of the *vis medicatrix*, of which he seems to be composed, till all his acquaintances have passed off the stage of action.

"On the other hand, this resisting power may be like that of the granite. Its owner may violate all sanitary laws, may laugh to scorn all counsel about what he should eat or drink, or wherewithal he should be clothed. He may expose himself unprotected to cold and wet. He may go without sleep and food. He may tax stomach and brain and muscle to the utmost. And yet he may remain undisturbed. We know such men—men who guzzle poor whiskey every day, and live to be a hundred years old. We know men of granite constitutions, who prow around late at night, when they should be snugly in bed; who gormandize, who exercise vigorously all the vices; and yet who remain a standing refutation—as superficial observers think—of all rules for preserving good health. But when some overwhelming calamity comes, they are stricken down forever; their first illness is their final one; they crumble to atoms.

"In every community are those whose resisting power is so feeble from inheritance, or so thoroughly impaired by excesses, that they are but walking dead men—apples of Sodom perhaps—fair to look upon, but ashes or putrefaction at the core. They yield to influences which are trivial in their nature, and go into the hands of the undertaker before their neighbors had even heard of their illness. These are children of old, or debauched, or scrofulous parents, whose resisting power is so nearly *nil*, that their aspirations to stand with the angels receive early gratification, in spite of all that love and skill can do to keep them away from their heavenly home. We name the messenger who summons them cholera infantum, or tuberculous brain disease, or white

swelling; and as parents, while we wonder at the mystery, we bow submissively to Him who gives and then takes again so soon. But as physicians, we are not surprised that diseased and mushroom cells should hasten to early destruction.

"No man liveth for himself alone. The good constitution, the strong resisting power of the temperate and upright man, is not only a sure personal defence against disease and a guarantee of longevity; it is transmitted to his offspring down to many generations. The dissolute man, broken down with diseases acquired while sowing his wild oats, suffers not alone. If he did, we might view the transaction with mitigated sorrow. He had his coarse enjoyment, and he can afford to reap corruption. But the evil that he does lives after him in the blighted and wretched lives of his innocent children and his children's children.

"A priceless inheritance is a strong resisting, combined with a vigorous recuperative power. He who has it and preserves it, and fortifies it, living a clean and active life, eschewing bodily and mental excesses, and clinging to the Divine promises, may bid defiance to disease in its multifarious forms. He need not be afraid for the pestilence that walketh in darkness, nor for the destruction that wasteth at noonday. Free from fear—the greatest depressant—he shall walk unscathed through all perils. A thousand may fall at his side, and ten thousand at his right hand, but disaster shall not come nigh him. And even when the onslaught of disease cannot be wholly warded off, the wounds inflicted shall have speedy healing."

The address in "Obstetrics" was delivered by Dr. R. Stansbury Sutton, of Pittsburgh. The subject of the address was "Ovariectomy." The first part of it was devoted to the history of the conditions surrounding McDowell's first case. The deviations from McDowell's method of performing the operation were then carefully traced up to the present day, and the conclusion reached was, that the operation, as left by McDowell, was almost as complete as at the present time. Two essential improvements were the introduction of the cauterizer by Baker Brown, and the cutting off of the long ends of the ligature by Nathan R. Smith. Dr. Sutton then showed that from McDowell's operation nearly all the intra-abdominal operations in surgery had sprung, and noted carefully the lectures and papers delivered on the subject during the last twelve months. He insisted, as in all former papers, upon greater care in the surroundings of all intra-abdominal operations, and, in further proof of his position, pointed to the admirable results obtained by John Homan, of Boston, and Robert Battey, of Rome, Ga., both of whom used the carbolic spray. He stated that for himself he did not use the spray, but looked upon cleanliness and Listerism as linked so closely together that they might be said to be inseparable, for Listerism is the gospel of cleanliness. Mr. Lawson Tait had said to him: "I have sold all my right, title, and interest in Listerism, with my tea-kettle, to Battey." At the close of his address, Dr. Sutton referred to Dr. J. Marion Sims as one whose name was synonymous with the surgery of women, beloved

of his own countrymen, and honored by the entire surgical world.

This was followed by a paper by Dr. W. C. Van Bibber, of Maryland, entitled "Construction of a Healthy City in Florida," in which he urged that change of air sometimes permanently arrests pulmonary disease in its first stage, and that the most favorable climate for yielding such a result was one where the temperature ranged from between 70° and 80° F., provided it is good, healthy air. Such a climate can be obtained on the Gulf Coast of the Peninsula of Florida; and if medical, social, and scientific interests would unite at once in the erection of a health city in the locality, it could be made so as to have no equal elsewhere.

Dr. N. S. Davis, on behalf of the Committee on Meteorological Conditions, and their relations to the prevalence of diseases, reported that the Committee had endeavored to secure full reports from the twelve principal cities of the Union through the official bureaus. It had made a special study of ozone production and its value, and also of its tests. Of these, Schönbein's paper is the best, but it reacts to other agents. Thallium was found to be very sensitive. Observations were interrupted in some cities by changes of residence of observers. Physicians were requested faithfully to record the beginning of all epidemics. He said it was difficult to secure such service, as many promise and do not perform; yet he thought that accumulating material will permit the Committee in after years to report conclusions of value. The report was accepted.

Dr. Davis also presented a report from the Committee on the Collective Investigation of Disease, which was appointed to act in co-operation with the Committee of the British Medical Association. He stated that at the International Medical Congress held at Copenhagen, an International Committee had been appointed, with members from Denmark, Sweden, Russia, Germany, France, and England, and North and South America. A sub-committee had been appointed to consider subjects for consideration, and to tabulate a programme to be distributed throughout the world. The Committee had decided that few questions should be asked, that they should be simple in character, and that they should relate, 1st, to geographical distribution; 2d, to prevalence of diseases in certain localities; 3d, to other etiological factors not so connected.

The report asked that the Committee should be continued, with instructions to urge upon other societies to take up the work. Several States, among which are Illinois and Pennsylvania, have already done so.

Dr. Davis, from the Special Committee to report Explanatory Resolutions of Certain Sections of the Code of Ethics, stated that the Committee had given the subject due consideration, and respectfully submitted the following brief report in the form of preamble and resolutions:

WHEREAS, Persistent misrepresentations have been, and still are being made, concerning the provisions of the Code of Ethics of the American Medical Association, which many, even in the ranks of the profession, are led to believe—as, for instance, that the Code excludes persons from professional recognition simply because of difference of opinion on doctrines—therefore,

Resolved, First, that Clause I., Article IV., of the National Code of Medical Ethics, is not to be interpreted as excluding from professional fellowship, on the ground of difference in doctrine or belief, those who in other respects are entitled to be members of the regular medical profession. Neither is there any other article or clause in the said Code of Ethics that interferes with the most perfect liberty of individual opinion and practice.

Second. That it constitutes voluntary disconnection or withdrawal from the medical profession proper, to assume a title indicating to the public an exclusive or a sectarian system of practice, or to belong to an association or party antagonistic to the general medical profession.

Third. That there is no provision in the National Code of Medical Ethics in any wise inconsistent with the broadest dictates of humanity, and that the article of the Code which relates to consultations cannot be correctly interpreted as interdicting under any circumstances the rendering of professional services whenever there is pressing or immediate need of them; on the contrary, to meet promptly the emergencies of disease, of accident, and to give a helping hand without unnecessary delay, is a duty fully enjoined on every member of the profession, both by the letter and the spirit of the entire Code. But no such emergencies or circumstances can make it necessary or proper to enter into formal professional consultations with those who voluntarily have disconnected themselves from the regular medical profession in the manner indicated by the preceding resolution.

Adopted.

Dr. Duncan Eve, of Tennessee, then delivered the "Address in Surgery." The first part of the address contained a rhetorical reference to surgery before anatomy was understood, and to what it had accomplished from the days of the ancients down to the present time. He reviewed many points in the history of surgery from the most ancient to the present time. He dwelt upon the improvement in the treatment of fractures of the skull, cleft palate, and vesical calculi, and in the application of orthopedic apparatus. The address closed with an eloquent eulogy upon the late Dr. Gross.

The committee appointed to consider the advisability of erecting a monument to Benjamin Rush in the city of Washington, recommended that such monument be erected by dollar subscriptions, and provided for the appointment of a committee to carry out the object of the resolution. The committee was appointed as follows: Drs. A. L. Gihon, Washington, D. C.; Henry Smith, Philadelphia; R. A. Kinloch, Charleston; S. C. Gordon, Maine; J. H. Murphy, Tennessee; M. H. Henry, New York.

The Nominating Committee then presented the following list of

OFFICERS FOR THE ENSUING YEAR:

President—William Brodie, M. D., of Michigan.
Vice-Presidents—Samuel Logan, M. D., of Louisiana; A. Y. P. Garnett, M. D., of the District of Columbia; Charles Alexander, M. D., of Wisconsin; and W. F. Peck, M. D., of Iowa.

Section of Medicine—J. T. Whittaker, M. D., of Ohio, Chairman; B. L. Coleman, M. D., of Kentucky, Secretary.

Section of Obstetrics—Seth C. Gordon, M. D., of Maine, Chairman; J. F. Y. Paine, M. D., of Texas, Secretary.

Section of Surgery—N. Senn, M. D., of Wisconsin, Chairman; H. H. Mudd, M. D., of St. Louis, Secretary.

Section of Ophthalmology—Eugene Smith, M. D., of Michigan, Chairman; J. F. Fulton, M. D., of Minnesota, Secretary.

Section of Diseases of Children—W. D. Haggard, M. D., of Tennessee, Chairman; W. B. Lawrence, M. D., of Arkansas, Secretary.

Section of State Medicine—J. H. Rauch, M. D., of Illinois, Chairman; F. E. Daniel, M. D., of Texas, Secretary.

Section of Aural and Dental Surgery—J. S. Marshall, M. D., of Illinois, Chairman; A. C. Baldwin, M. D., of Illinois, Secretary.

Committee on Necrology—J. M. Toner, M. D., of the District of Columbia, Chairman.

Judicial Council—R. A. Kinloch, M. D., of South Carolina; D. D. Saunders, M. D., of Tennessee; T. G. Richardson, M. D., of Louisiana; G. A. Ketchum, M. D., of Alabama; George Baird, M. D., of West Virginia; J. M. Toner, M. D., of the District of Columbia; A. M. Pollock, M. D., of Pennsylvania.

Time and place of next meeting—St. Louis, on the first Tuesday in May, 1886.

In the *Section on Practice of Medicine*, presided over by Dr. Didama, of Syracuse, the following papers were read: "On Carbuncle," by Dr. Bulkley, of New York, who objected to incision, because of the danger from pus being absorbed, which does not occur when the carbuncle is allowed to open naturally. He was opposed to poultices, and gave calcium sulphite in quarter-grain doses in gelatine-coated pills every two hours, magnesia sulphate in laxative doses three times a day, and tonic doses of sulphate of iron; and an application of solid extract of ergot, two drachms; oxide of zinc, one drachm; rose-water ointment, two ounces, upon lint, to the carbuncle, which reduces pain and cuts short the disease.

Dr. Hebbard, of Indianapolis, found that oleate of morphia, applied every two hours, cuts short carbuncle to a few days' duration. He did not incise.

Dr. Lynch, of Baltimore, indorsed Dr. Bulkley's plan, but applied dilute citrine ointment.

Dr. Shoemaker, of Philadelphia, did not incise carbuncle, unless there was a considerable quantity of pus. He indorsed Dr. Bulkley's treatment, and did not get good results from oleates.

Dr. Savage, of Tennessee, painted a ring of collodion around the carbuncle with good results.

"The Percuteur; its Uses in Diseases of the Nervous System," by Dr. A. F. Patte, of Boston.

"Hydatid Tumors," by Dr. N. Harvey Reed, of Mansfield, Ohio. "An Attempt at Radical Treatment of Tuberculosis," by Dr. Whittaker, of Cincinnati, who has, without favorable results, injected corrosive sublimate into the consolidated portion of the lung. "The Hypodermatic Injection of Oil," by Dr. John V. Shoemaker, of Philadelphia.

In the *Section on Surgery*: Dr. John B. Roberts, of Philadelphia, read a paper on "False Doctrines in the Treatment of Fractures," referring first to errors by the invariable use of the primary

bandage, and by the use of passive motion too late or too early. He said splints were often left on too long; there was more damage done by letting it alone than by exploring in fractures of the skull. He also referred to fractures of the nose, clavicle, humerus, and elbow-joint. The use of the interosseous pad in the forearm he maintained did not do what was claimed for it. He believed that, as a diagnostic point, measurement was not of as much value in the lower extremities as was generally supposed.

"The Treatment of Compound Fractures by Free Drainage and Wiring of Bones," by Dr. Virity, of Illinois. "Do we Find our Micro-Organisms in Enclosed Cavities a Hitherto Unsuspected Danger to Surgical Lesions?" by Dr. H. O. Marcy, of Massachusetts. "The Surgical Treatment of Cysts of the Pancreas," by Dr. Senn, of Milwaukee. "Two Ovariectomies on the Same Patient," by Dr. Ranschoff, of Cincinnati. "Giant Growth of the Lower Extremities." "Case of Necrosis of Tibia and Fibula of Ten Years' Duration; Operation and Recovery," by Dr. R. H. Jenkins, of Georgia. "Colo-Proctitis Treated by Hot-Water Douche and Stretching or Division of Sphincter Ani," by Dr. A. T. Garnett, of Washington. "A New Combined Trocar and Canula, and Aspirating Needle," by Dr. H. L. Getz, of Iowa. "Fibroma of the Scalp," by Dr. Owens.

In the *Section on Obstetrics*: "The Treatment of the Secundines in Abortion and Labor," by Dr. William H. Wather, of Louisiana, Ky. "Parametric Abscess," by Dr. W. W. Potter, of Buffalo. "Chronic Peri-Uterine Abscess; its Treatment by Laparotomy," by Dr. C. Fenger, of Chicago. "How Soon After Exposure to Sepsis may the Accoucheur Resume Practice?" by Dr. George French, of Minneapolis. "Abdominal Tumor," by Dr. J. A. T. Payne, of Galveston, Texas. "The Multiple Speculum Uteri and an Improved Dressing Forceps," by Dr. Munn, of Savannah. "The Improved Technique in Gynecological Operations, Minor and Major," by Dr. J. Engelmann, of St. Louis. "Speculi," by Dr. Henry O. Marcy, of Boston. "The Role of Bacteria," by Dr. Henry O. Marcy. "Vaginal Hysterectomy for Cancer," by Dr. A. Reeves Jackson, of Chicago. "Emmet's Operation—When Shall it and When Shall it not be Performed?" by Dr. E. Zink, of Cincinnati. "Reasons for and Results of Some Cases of Tait's Operation," by Dr. Gordon, of Maine. "Intra-Peritoneal Adhesions in Relation to Tait's or Battey's Operation," by Dr. B. G. Heard, of San Antonio, Texas. "Notes on Surgical Gynecology in the Berlin Clinics," by Dr. Horatio Bigelow, of Washington. "The Ring of Bandl," by Dr. W. A. Jaggard, of Chicago.

(To be continued.)

Illinois State Board of Health.

At the regular quarterly meeting of the Illinois State Board of Health, held in Chicago, April 16 and 17, in connection with the efforts made to secure information from the national authorities concerning the status of cholera abroad, attention was called in the report of the Secretary to the cable dispatches received by the newspapers during the meeting announcing that

the French, Italian, and Portuguese governments had ordered a quarantine of detention against Spanish vessels; and immediately following this came information of the appearance of the disease at Jaen, in the province of that name in the south of Spain, and at Santiago de Compostela, in the extreme north-eastern province of Cornua—the same dispatch saying that the panic in Spain over the spread of cholera is increasing as reports continue to arrive, showing that new points are being constantly attacked; that the government is taking energetic measures to isolate infected towns; and that a circular of warning has been sent by telegraph to the authorities of all provinces, cautioning them against the admission of persons or goods from twelve specified towns, all of which are officially stated to be more or less infected.

Simultaneously with this latter information the first official statement was made public by the Secretary of the State, who announced, on the 18th of April, the receipt of a dispatch from the United States consul-general at Madrid, saying "that he is informed by the director-general of health that there is no cholera in Spain, and that the cases recently reported in the province of Valencia are not cholera." The Spanish government has instructed its ambassadors to protest against quarantine restrictions, and a dispatch of the 19th inst., from Barcelona, also asserts that the disease is not Asiatic cholera, but cholera morbus or cholerae, due to local causes; the outbreak at Alcoira, near Valencia, for example, being caused, it is claimed, by the failure of the regular water-supply, in consequence of which "the people have been drinking from a canal which was tainted by paper mills that use suspicious rags."

In view of these contradictory statements, and in the absence of full and authentic information from the national health authorities, sanitarians are justified in regarding, for precautionary purposes, the disease now so widely spread through the littoral provinces of Spain, as true Asiatic cholera, and in apprehending present danger of its introduction into this country through commercial intercourse with the Spanish possessions in the West Indies—Cuba, Porto Rico, etc.—and less directly with those in South America.

Attention is also called to the fact that the country is threatened with an influx, by emigration from Italy, of a people reduced to the verge of beggary and starvation by last year's cholera epidemic and its results. The low rates of passage will tempt to violation of the law against overcrowding, with all the suffering and unsanitary conditions which will thence result. The poverty of the people and their modes and habits of life will add to the evil; and increased burdens and responsibilities will be thrown upon the authorities of every port at which these immigrants land, as well as upon the communities in which they may settle. These considerations may make it necessary to begin the work of sanitary supervision of travel and quarantine along the State boundary lines earlier than would otherwise be necessary. Already the first instalment of the Italian immigration has arrived in Chicago.

The Board adopted the following preamble and resolutions concerning these matters:

CONCERNING INFORMATION OF FOREIGN EPIDEMIC DISEASES.

WHEREAS, Prompt, full and trustworthy information of the existence of epidemic diseases, such as Asiatic cholera, yellow fever and small-pox, in the foreign ports in commercial relations with this country, is a matter of the first importance to the success of efforts for preventing their introduction or limiting their spread; and

WHEREAS, It is understood that, under the authority conferred upon the President by Sec. 1732 of the Revised Statutes of the United States, consular officers and other foreign agents of the General Government are required to furnish such information: Therefore, be it

Resolved, That the Secretary of this Board be, and he hereby is, instructed to respectfully request of the honorable the Secretary of State that he cause to be transmitted to the office of this Board, at Springfield, so much of such information as may be useful in guiding action for the protection of the people of this Commonwealth against Asiatic cholera, yellow fever and small-pox.

On motion of Dr. Clark it was also

Resolved, That the STATE BOARD OF HEALTH of the State of Illinois respectfully but earnestly requests the President of the United States to authorize the National Board of Health to use so much of the contingent epidemic fund, appropriated by the last Congress, as may be necessary for preparing and enforcing an adequate system of preventive measures against the introduction and spread of foreign pestilential diseases, in cooperation with, and in aid of, State and local health organizations and with especial reference to Asiatic cholera.

Resolved, That the Secretary be authorized to transmit a copy of this resolution to the President.

STATE SANITARY SURVEY.

The first distribution of the blank inspection returns and accompanying instructions, embracing an aggregate of about 270,000 houses, was completed during the last week of the quarter. This distribution began with Alexander county, and progressed northward to the tier of counties along the Wisconsin line, which was reached in ample time to prepare for work as soon as the weather would permit. Before the middle of the State was reached, responses began to be received from localities in the southern counties, and by the close of the quarter 143 towns had been heard from. General publicity has been given to this effort by the press of the State, to secure which special circulars were addressed to the editors of 775 different publications.

A blank form for a tabular statement of these inspections has been prepared and printed, and is now ready for distribution. These will be furnished in duplicate sets, one to be returned to the office of the Board. They will show, at a glance, the actual sanitary condition of any given house and premises at the date of inspection; and, in the event of Asiatic cholera, or other epidemic contagious disease, making its appearance in a locality, they cannot fail to be of great practical value, not alone to the authorities of such locality, but also to the Board, indicating, without loss of time, the direction and manner in which its cooperation, advice, or authority, may be best employed.

Circular-letters have been addressed to the managers of all railroad companies operating in this State, urging immediate attention to the condition of the water-supply and of privies and water-closets at stations, shops, round-houses, and other places along their respective roads. Satisfactory replies have been received from nearly every company addressed, and some of the most important have already practically completed the required work.

County Boards and officers in charge of public

institutions—almshouses, jails, asylums, etc.—have also been requested to secure a thorough sanitary policing of such places, and specific instructions on the most important points have been furnished.

Copies of the blanks, forms, etc., prepared for this general work have been furnished, on request, to the health department of Chicago; and an excellent form of inspection return, modified to meet the city conditions, has been prepared by the Commissioner of Health, Dr. DeWolf, for an inspection of some 70,000 houses. It is proposed to complete the inspection of 50,000 of these, and to secure the correction of the defects thus disclosed by the 1st of June.

One of the encouraging indications of the interest taken in this effort to prepare the State against an epidemic, is found in the large number of letters from private individuals asking advice, making suggestions, or expressing approval.

SANITARY CONDITION OF CHICAGO.

During the Friday morning session, Dr. O. C. DeWolf, Health Commissioner of Chicago, was present by invitation to speak upon the sanitary condition of the city, the work in progress and projected, and the preparations for cholera. From the standpoint of the sanitarian, Dr. DeWolf said, Chicago was a clean city, although its muddy streets made it seem dirty. Its low death-rate and the failure of small-pox to spread, notwithstanding thirty-five introductions of the contagion since last June, showed it to be clean in a sanitary sense; and the work now in progress and projected would, he believed, make it clean in appearance as well as in fact. Referring to the house-to-house inspection in the State at large, he said that the health department was also inspecting at the present time, about a thousand houses a week, in the worst quarters of the city; in a short time this would be increased, so that by the middle of June he hoped to have all that really required supervision thoroughly inspected and put in good condition. Some 9,000 tenement houses, which are usually a serious sanitary evil in all large cities, are under constant supervision, and he believed them to be as unobjectionable as it was practicable to make such buildings. If cholera should come, the preparations were already completed to promptly take charge of the first cases, to furnish medical attendance and nurses, to depopulate an infected house or locality, and to carry out whatever measures were necessary to prevent any spread.

The thanks of the Board were tendered Dr. DeWolf by the President for his very interesting and reassuring statement.

At the afternoon session, Mr. O. C. Guthrie, of Chicago, presented, by invitation, a brief outline of his plans for the sewerage and drainage of Chicago and its suburbs. Their important features embrace a study of the hydraulics of the Des-plaines river, with reference to the effect of high water upon the cleansing of the Chicago river through the canal (by counteracting the action of the pumps), upon the integrity of the canal itself, and upon the safety of Chicago and Joliet from inundation.

DISINFECTION AND DISINFECTANTS.

The Secretary asked leave to submit a copy of

the Preliminary Report on Disinfection and Disinfectants made by the Committee on that subject appointed by the American Public Health Association, stating that, as Secretary of the Sanitary Council of the Mississippi Valley, and chairman of its special committee on General Sanitation, he had, in accordance with a resolution of the Council, addressed a letter, March 14th, to Surgeon Geo. M. Sternberg, U. S. A., chairman of the Committee on Disinfectants, requesting to be furnished with "a plain, practical paper on disinfection and disinfectants for popular use and distribution." Surgeon Sternberg, under date of April 14th, in a letter accompanying this copy, writes: "At a special meeting of the Committee on Disinfectants, called for the purpose, the paper submitted was carefully considered, and adopted unanimously, as expressing the views of this committee with reference to the best methods of disinfection known to us."

As this paper was intended for popular use and distribution, the Secretary remarked that he knew of no better way of securing that end than by publishing it in the report of the proceedings of the Board.

Dr. Ludlam moved that the copy of the Preliminary Report be received and published as suggested. Carried. It was subsequently ordered that the Secretary prepare a special edition of the paper, embracing only the practical instructions, for the use of local boards of health and health officers throughout the State.

State Medical Society of Georgia.

At the thirty-sixth annual meeting of this Society, held in Savannah, April 15, 16, and 17, the following papers were read:

"The Extent, Causes, and Prevention of Premature Death," by Dr. Eugene Foster, of Augusta, who claimed that the inherent potential longevity of man was from eighty to one hundred years, and that every human being had an inborn right to this period of life.

In seeking causes of premature death, he cited the fact that of the 1,146 diseases—general, local, etc.—which affect mankind, 27 caused fully 75 per cent. of the total mortality in 1870, and he contended that every one of these diseases is wholly preventable by application of definite and well-known hygienic measures.

He contended that there are mainly four essentials to procurement of health and longevity:

1. Purity of atmosphere and water.
2. Wholesome food in quantity and quality.
3. The inheritance of a healthful constitution.
4. Freedom from contagious and infectious diseases.

Man, in his individual efforts, has but little power over either of these essentials of life, with the exception of food. The only power which can secure the other three to the individual is the State. Minute and elaborate presentations of the filthiness of all cities, and the need of thorough sewerage and drainage, were made, and contained food for reflection.

The importance of, and the right to, inheritance of a healthful constitution, were fully presented, and the growing evil of marriage among persons diseased with consumption, scrofula, syphilis,

epilepsy, chorea, insanity, and alcoholism, was severely condemned.

Upon questions of freedom from contagious and infectious diseases, the speaker pointed out the enormous mortality from these diseases, and criticised man's stupidity in permitting cases of contagious and infectious diseases to scatter abroad the seeds of their infection, when he is all-powerful to prevent the evil. He cited the fact that five preventable diseases—i. e., small-pox, measles, scarlet fever, whooping-cough, diphtheria—kill 50,000 Americans every year, and yet the authorities, National and State, are indifferent to these causes of death, and are only fearful of cholera and yellow fever. He showed that the mortality from these latter two diseases was insignificant in comparison to that from other preventable diseases over which man has absolute control, and yet does nothing to prevent. He urged education of the public in sanitation as the remedy which it was the duty of the profession to promote.

"The Importance of Good Nursing and the Training of Nurses," by Dr. Howard J. Williams, of Macon. "The Best Nutritive for the Bony System," by Dr. R. J. Nunn, of Savannah. "A New System of Treating Diphtheria," by Dr. R. J. Nunn. "A Case of Double Uterus, with Fœtus in Each," by Dr. E. W. Lane. "Glaucoma following the Excessive Use of Atropia," by Dr. J. M. Hull, of Augusta. "Trachomatous Growths in the Larynx in Children," by Dr. A. W. Calhoun, of Atlanta.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President—R. J. Nunn, M. D., of Savannah.
Vice-Presidents—L. B. Alexander, M. D., of Forsyth; and T. F. Walker, M. D., of Cochran.
Secretary—James D. Cray, M. D., of Atlanta.
Treasurer—E. C. Goodrich, M. D., of Augusta.
Orator—C. W. Hickman, M. D., of Augusta.
 Augusta was selected as the next place of meeting.

University of Pennsylvania.

The 111th annual commencement of the department of medicine of the University of Pennsylvania was held at the Academy of Music, May 1st, when degrees were conferred by Provost Pepper, upon 107 graduates in medicine and forty-nine graduates in dentistry. There was a large attendance, and in front of the stage was brilliant with floral decorations and bouquets for the graduates.

Dr. James Tyson, secretary of the Faculty, announced the following prizes as having been awarded to graduates in the department of medicine: A prize of \$100, offered by a friend of the University for a sufficiently meritorious thesis, to Meier L. Jelovitz, for his thesis on "Bubonic Plague."

Alumni prize of \$50, instituted by the Society of the Alumni of the Medical Department, to Frank S. Sutter, of California, for his thesis on the "Post Mortem Absorption of Arsenic."

The theses of the following received awards of distinguished merit: William C. Lott, of New Jersey; Thomas S. Kirkbride, Morton, Pa.; Charles S. Potts, Philadelphia.

Honorable mention was made of the following: Fred. A. Packard and J. B. Shober, Pennsylvania; G. B. McClellan, Pennsylvania; Fred. M. Strouse, St. Paul, Minn.; Howard S. Stretler, Philadelphia; William K. Cochran, Philadelphia; W. C. Goodell, Philadelphia, and Albert E. Geissel, Philadelphia.

The Morbid Anatomy prize of a Zentmayer's histological microscope was awarded to Francis E. E. Emory, of the Argentine Republic, for his thesis on "Parenchymatous Nephritis," with honorable mention of the thesis of Thomas Hubbard, of Ohio, and William V. Nichols, of New Jersey.

The Henry U. Beale prize of \$50 for the highest general average attained on examination, was awarded to Frederick A. Packard, of Pennsylvania.

The Demonstrator's prizes, by the demonstrator of anatomy, Dr. J. William White, were awarded as follows: First, for proficiency in bandaging and operating, a copy of "Agnew's Surgery," to Edward G. Rhoads; second, a case of pocket instruments, to Frederick A. Packard.

The Anatomical prizes of \$50 by Dr. John B. Deaser, for the best record of anomalies found in the anatomical room, was awarded to Thomas D. King, of Ohio.

Of two special prizes, offered by Dr. Spencer Morris, for marked proficiency in differential diagnosis and hygiene, the award was made by a special competitive examination, the first prize of \$50 being awarded to Frederick A. Packard, and the second, of \$20, to Thomas D. Kane.

The valedictory address was delivered by Dr. D. Hayes Agnew, Professor of Surgery and Clinical Surgery, and after the prizes had been presented the exercises closed with the benediction by Rev. Mr. MacIntosh.

Preliminary Report on Disinfection and Disinfectants, made by the Committee on Disinfectants of the American Public Health Association.

The following is the report referred to in the proceedings of the Illinois State Board of Health noticed in this issue:

"The object of *disinfection* is to prevent the extension of infectious diseases by destroying the specific infectious material which gives rise to them. This is accomplished by the use of *disinfectants*.

"There can be no partial disinfection of such material; either its infecting power is destroyed, or it is not. In the latter case there is a failure to disinfect. Nor can there be any disinfection in the absence of infectious material.

"It has been proved for several kinds of infectious material that its specific infecting power is due to the presence of living micro-organisms, known in a general way as "disease germs;" and practical sanitation is now based upon the belief that the infecting agents in all kinds of infectious material are of this nature. Disinfection, therefore, consists essentially in the destruction of disease germs.

"Popularly, the term disinfection is used in a much broader sense. Any chemical agent which destroys or masks bad odors, or which arrests putrefactive decomposition, is spoken of as a disinfectant. And in the absence of any infectious disease it is common to speak of disinfecting a

foul cess-pool, or bad-smelling stable, or privy vault.

"This popular use of the term has led to much misapprehension, and the agents which have been found to destroy bad odors—*deodorizers*—or to arrest putrefactive decomposition—*antiseptics*—have been confidently recommended and extensively used for the destruction of disease germs in the excreta of patients with cholera, typhoid fever, etc.

"The injurious consequences which are likely to result from such misapprehension and misuse of the word disinfectant, will be appreciated when it is known that:

"Recent researches have demonstrated that many of the agents which have been found useful as deodorizers, or as antiseptics, are entirely without value for the destruction of disease germs.

"This is true, for example, as regards the sulphate of iron or copperas, a salt which has been extensively used with the idea that it is a valuable disinfectant. As a matter of fact, sulphate of iron in saturated solution does not destroy the vitality of disease germs, or the infecting power of material containing them. This salt is, nevertheless, a very valuable antiseptic, and its low price makes it one of the most available agents for the arrest of putrefactive decomposition in privy vaults, etc.

"Antiseptic agents also exercise a restraining influence upon the development of disease germs, and their use during epidemics is to be recommended, when masses of organic material in the vicinity of human habitations cannot be completely destroyed, or removed, or disinfected.

"While an antiseptic agent is not necessarily a disinfectant, all disinfectants are antiseptics; for putrefactive decomposition is due to the development of "germs" of the same class as that to which disease germs belong, and the agents which destroy the latter also destroy the bacteria of putrefaction, when brought in contact with them in sufficient quantity, or restrain their development when present in smaller amounts.

"A large number of proprietary 'disinfectants,' so-called, which are in the market, are simply deodorizers or antiseptics, of greater or less value, and are entirely untrustworthy for disinfecting purposes.

"Antiseptics are to be used at all times when it is impracticable to remove filth from the vicinity of human habitations, but they are a poor substitute for cleanliness.

"During the prevalence of epidemic diseases, such as yellow fever, typhoid fever, and cholera, it is better to use in privy vaults, cesspools, etc., those antiseptics which are also disinfectants—i. e., germicides; and when the contents of such receptacles are known to be infected, this becomes imperative.

"Still more important is the destruction at our sea-port quarantine stations of infectious material which has its origin outside of the boundaries of the United States, and the destruction within our boundaries of infectious material given off from the persons of those attacked with any infectious disease, whether imported or of indigenous origin.

"In the sick-room we have disease germs at an advantage, for we know where to find them as well as how to kill them.

"Having this knowledge, not to apply it would be criminal negligence; for our efforts to restrict the extension of infectious diseases must depend largely upon the proper use of disinfectants in the sick-room.

"GENERAL DIRECTIONS.

"*Disinfection of Excreta, etc.*—The infectious character of the dejections of patients suffering from cholera and from typhoid fever is well established; and this is true of mild cases and of the earlier stages of these diseases as well as of severe and fatal cases. It is probable that epidemic dysentery, tuberculosis, and perhaps diphtheria, yellow fever, scarlet fever and typhus fever, may also be transmitted by means of the alvine discharges of the sick. It is, therefore, of the first importance that these should be disinfected. In cholera, diphtheria, yellow fever and scarlet fever, all vomited material should also be looked upon as infectious. And in tuberculosis, diphtheria, scarlet fever and infectious pneumonia, the sputa of the sick should be disinfected or destroyed by fire. It seems advisable also to treat the urine of patients sick with an infectious disease with one of the disinfecting solutions below recommended.

"*Chloride of lime*, or bleaching powder, is, perhaps, entitled to the first place for disinfecting excreta, on account of the rapidity of its action. The following standard solution is recommended:

"STANDARD SOLUTION No. 1.

"*Dissolve Chloride of Lime of the best quality* in soft water, in the proportion of four ounces to the gallon.*

"Use one pint of this solution for the disinfection of each discharge in cholera, typhoid fever, etc. Mix well and leave in vessel for at least ten minutes before throwing into privy-vault or water-closet. The same directions apply for the disinfection of vomited matters. Infected sputum should be discharged directly into a cup half full of the solution.

"STANDARD SOLUTION No. 2.

"*Dissolve Corrosive Sublimate and Permanganate of Potash in soft water, in the proportion of two drachms of each salt to the gallon.*

"This is to be used for the same purposes and in the same way as *Standard Solution No. 1*. It is equally effective, but it is necessary to leave it for a longer time in contact with the material to be disinfected—at least an hour. The only advantage which this solution has over chloride of lime solution consists in the fact that it is odorless, while the odor of chlorine in the sick-room is considered by some persons objectionable. The cost is about the same.† It must be remembered that this solution is highly poisonous. It is proper, also, to call attention to the fact that it

will injure lead pipes if passed through them in considerable quantities.

"STANDARD SOLUTION No. 3.

"*To one part of Labarraque's Solution, (liquor sodæ chlorinatæ,) add five parts of soft water.*

"This solution is more expensive* than the solution of chloride of lime, and has no special advantages for the purposes mentioned. It may, however, be used in the same manner as recommended for *Standard Solution No. 1*.

"The following powder is also recommended for the disinfection of excreta in the sick room and of privy-vaults, etc.:

"DISINFECTING AND ANTISEPTIC POWDER.

"One pound of chloride of lime; one ounce of corrosive sublimate; nine pounds of plaster of Paris. Pulverize the corrosive sublimate and mix thoroughly with the plaster of Paris. Then add the chloride of lime and mix well. Pack in paste-board boxes or in wooden casks. Keep dry.

"As an antiseptic and deodorizer, this powder is to be sprinkled upon the surface of excreta, etc.

"To disinfect excreta in the sick room, cover the entire surface with a thin layer of the powder—one-fourth inch in thickness—and if the material is not liquid, pour on sufficient water to cover it.

"*Disinfection of the Person.*—The surface of the body of a sick person, or of his attendants, when soiled with infectious discharges, should be at once cleansed with a suitable disinfecting agent. For this purpose *Standard Solution No. 3* may be used.

"In diseases like small-pox and scarlet fever, in which the infectious agent is given off from the entire surface of the body, occasional ablutions with Labarraque's solution, diluted with twenty parts of water, will be more suitable than the stronger solution above recommended.

"In all infectious diseases the surface of the body of the dead should be thoroughly washed with one of the standard solutions above recommended, and then enveloped in a sheet saturated with the same.

"*Disinfection of Clothing.*—Boiling for half an hour will destroy the vitality of all known disease germs, and there is no better way of disinfecting clothing or bedding which can be washed than to put it through the ordinary operations of the laundry. No delay should occur, however, between the time of removing soiled clothing from the person or bed of the sick and its immersion in boiling water, or in one of the following solutions; and no article should be permitted to leave the infected room until so treated.

"STANDARD SOLUTION No. 4.

"*Dissolve corrosive sublimate in water † in the proportion of four ounces to the gallon, and add one drachm of permanganate of potash to each gallon to give color to the solution.*

"We assume that the solution will contain at least 3 per cent. of available chlorine, which would give us 0.5 per cent. in the diluted solution. The cost per gallon of the undiluted solution should not be more than fifty cents by the quantity. This would make our standard solution cost between eight and nine cents a gallon.

† Mercuric chloride (corrosive sublimate) is soluble in cold water in the proportion of one part in sixteen. Solution is greatly facilitated by heat.

*NOTE.—Good chloride of lime should contain at least 25 per cent. of available chlorine. (See preliminary report of Committee on Disinfectants; the Med. News, Philadelphia, February 7, 1885, page 147.) It may be purchased by the quantity at five cents per pound. The cost of the standard solution recommended is therefore less than two cents a gallon. A clear solution may be obtained by filtration or by decantation, but the insoluble sediment does no harm, and this is an unnecessary refinement.

† Corrosive sublimate costs about seventy cents a pound, and permanganate of potash sixty-five cents a pound, by the single pound. This makes the cost of *Standard Solution No. 2* a little more than two cents a gallon.

"One fluid ounce of this standard solution to the gallon of water, will make a suitable solution for the disinfection of clothing. The articles to be disinfected must be thoroughly soaked with the disinfecting solution, and left in it for at least two hours, after which they may be wrung out and sent to the wash.

"N. B. Solutions of corrosive sublimate should not be placed in metal receptacles, for the salt is decomposed and the mercury precipitated by contact with copper, lead or tin. A wooden tub or earthen crock is a suitable receptacle for such solutions.

"Clothing may also be disinfected by immersion for two hours in a solution made by diluting Standard Solution No. 1 with nine parts of water—one gallon in ten. This solution is preferable for general use, especially during the prevalence of epidemics, on account of the possibility of accidents from the poisonous nature of Standard Solution No. 4. When diluted as directed, this solution may, however, be used without danger from poisoning through the medium of clothing immersed in it, or by absorption through the hands in washing. A poisonous dose could scarcely be swallowed by mistake, owing to the metallic taste of the solution, and the considerable quantity which would be required to produce a fatal effect—at least half a pint.

"Clothing and bedding which cannot be washed may be disinfected by exposure to dry heat in a properly constructed disinfecting chamber for three or four hours. A temperature of 230° Fah. should be maintained during this time, and the clothing must be freely exposed—i. e., not folded or arranged in piles or bundles, for the penetrating power of dry heat is very slight.

"The limitations with reference to the use of dry heat as a disinfectant are stated in a 'Preliminary Report of the Committee on Disinfectants,' published in *The Medical News*, Philadelphia, March 14, 1885.

"The temperature above mentioned will not destroy the spores of bacilli—e. g., of the anthrax bacillus—but is effective for the destruction of all disease germs which do not form spores, and there is good reason to believe that this list includes small-pox, cholera, yellow fever, diphtheria, erysipelas, puerperal fever, and scarlet fever (?). Moist heat is far more effective, and it is demonstrated that ten minutes' exposure to steam, at a temperature of 230° Fah., will destroy all known disease germs, including the most refractory spores.

"In the absence of a suitable disinfecting chamber, it will be necessary to burn infected clothing and bedding, the value of which would be destroyed by immersion in boiling water, or in one if the disinfecting solutions recommended.

"Disinfection of the Sick-room.—In the sick-room no disinfectant can take the place of free ventilation and cleanliness. It is an axiom in sanitary science that it is impracticable to disinfect an occupied apartment; for the reason that disease germs are not destroyed by the presence in the atmosphere of any known disinfectant in respirable quantity. Bad odors may be neutralized, but this does not constitute disinfection in the sense in which the term is here used. These bad odors are, for the most part, an indication of want of

cleanliness, or of proper ventilation; and it is better to turn contaminated air out of the window, or up the chimney, than to attempt to purify it by the use of volatile chemical agents, such as carbolic acid, chlorine, etc., which are all more or less offensive to the sick, and are useless so far as disinfection—properly so-called—is concerned.

"When an apartment which has been occupied by a person sick with an infectious disease is vacated, it should be disinfected. But it is hardly worth while to attempt to disinfect the atmosphere of such an apartment, for this will escape through an open window and be replaced by fresh air from without, while preparations are being made to disinfect it. Moreover, experience shows that the infecting power of such an atmosphere is quickly lost by dilution, or by the destruction of floating disease germs through contact with oxygen, and that even small-pox and scarlet fever are not transmitted to any great distance through the atmosphere; while cholera, typhoid fever, and yellow fever, are rarely, if ever, contracted by contact with the sick, or by respiring the atmosphere of the apartments occupied by them.

"The object of disinfection in the sick-room is, mainly, the destruction of infectious material attached to surfaces, or deposited as dust upon window-ledges, in crevices, etc. If the room has been properly cleansed and ventilated while still occupied by the sick person, and especially if it was stripped of carpets and unnecessary furniture at the outset of his attack, the difficulties of disinfection will be greatly reduced.

"All surfaces should be thoroughly washed with a solution of corrosive sublimate of the strength of one part in 1,000 parts of water, which may be conveniently made by adding four ounces of Standard Solution No. 4 to the gallon, or one pint to four gallons of water. The walls and ceiling, if plastered, should be whitewashed with a lime wash containing the same proportion of corrosive sublimate, or they may be brushed over with the aqueous solution. Especial care must be taken to wash away all dust from window-ledges and other places where it may have settled, and to thoroughly cleanse crevices and out-of-the-way places. After this application of the disinfecting solution, and an interval of twenty-four hours or longer for free ventilation, the floor and wood-work should be well scrubbed with soap and hot water, and this should be followed by a second more prolonged exposure to fresh air, admitted through open doors and windows.

"Many sanitary authorities consider it necessary to insist upon fumigation with sulphurous acid gas—produced by combustion of sulphur—for the disinfection of the sick-room. As an additional precaution this is to be recommended, especially for rooms which have been occupied by patients with small-pox, scarlet fever, diphtheria, typhus fever, and yellow fever. It should precede the washing of surfaces and free ventilation above recommended. But fumigation with sulphurous acid gas alone, as commonly practiced, cannot be relied upon for the disinfection of the sick-room and its contents, including bedding, furniture, infected clothing, etc., as is popularly believed. And a misplaced confidence in this mode of disinfection

is likely to lead to a neglect of the more important measures which have been recommended. In the absence of moisture the disinfecting power of sulphurous acid gas is very limited, and under no circumstances can it be relied upon for the destruction of spores.* But exposure to this agent in sufficient quantity, and for a considerable time especially, and in the presence of moisture, is destructive of disease germs, in the absence of spores. It is essential, however, that the germs to be destroyed shall be very freely exposed to the disinfecting agent, which has but slight penetrating power.

"To secure any results of value, it will be necessary to close the apartment to be disinfected as completely as possible by stopping all apertures through which the gas might escape, and to burn not less than three pounds of sulphur for each thousand cubic feet of air-space in the room.† To secure complete combustion of the sulphur it should be placed, in powder or in small fragments, in a shallow iron pan, which should be set upon a couple of bricks in a tub partly filled with water, to guard against fire. The sulphur should be thoroughly moistened with alcohol before igniting it.

"Disinfection of Privy-vaults, Cess-pools, etc.—When the excreta—not previously disinfected—of patients with cholera or typhoid fever, have been thrown into a privy-vault, this is infected, and disinfection should be resorted to as soon as the fact is discovered, or whenever there is reasonable suspicion that such is the case. It will be advisable to take the same precautions with reference to privy-vaults into which the excreta of yellow fever patients have been thrown, although we do not definitely know that this is infectious material. Disinfection may be accomplished either with corrosive sublimate or with chloride of lime. The amount used must be proportioned to the amount of material to be disinfected.

"Use one pound of corrosive sublimate for every five hundred pounds—estimated—of fecal matter contained in the vault, or one pound of chloride of lime to every thirty pounds.

"Standard Solution No. 4, diluted with three parts of water, may be used. It should be applied—the diluted solution—in the proportion of one gallon to every four gallons—estimated—of the contents of the vault.

"If chloride of lime is to be used, one gallon of Standard Solution No. 1 will be required for every gallon—estimated—of the material to be disinfected.

"All exposed portions of the vault, and the wood-work above it, should be thoroughly washed down with the disinfecting solution.

"To keep a privy-vault disinfected during the progress of an epidemic, sprinkle chloride of lime freely over the surface of its contents daily. Or, if the odor of chlorine is objectionable, apply daily four or five gallons of Standard Solution No. 2, which should be made up by the barrel, and kept in a convenient location, for this purpose.

"Disinfection of Ingesta.—It is well established that cholera and typhoid fever are very fre-

quently, and perhaps usually, transmitted through the medium of infected water or articles of food, and especially milk. Fortunately we have a simple means at hand for disinfecting such infecting fluids. This consists in the application of heat. The boiling temperature maintained for half an hour kills all known disease germs. So far as the germs of cholera, yellow fever, and diphtheria, are concerned, there is good reason to believe that a temperature considerably below the boiling point of water will destroy them. But in order to keep on the safe side, it is best not to trust anything short of the boiling point (212° F.), when the object in view is to disinfect food or drink, which is open to the suspicion of containing the germs of any infectious disease.

"During the prevalence of an epidemic of cholera, it is well to boil all water for drinking purposes. After boiling, the water may be filtered, if necessary to remove sediment, and then cooled with pure ice if desired.

"A sheet of filtering paper, such as druggists use, and a glass or tin funnel, furnishes the best means for filtering water on a small scale for drinking purposes. A fresh sheet of paper is to be used each day."

Medical Society of the State of Pennsylvania.

The thirty-sixth annual meeting will be held in Scranton, on May 27, 28, and 29, 1885, commencing on Wednesday, May 27, at 9 a. m. The address in Surgery will be delivered by Dr. E. A. Wood, of Pittsburg; in Obstetrics, by Dr. C. A. Rahter, Harrisburg; in Hygiene, by Dr. J. G. Richardson, Philadelphia; in Mental Disorders, by Dr. S. S. Schultz, Danville; in Medicine, by Dr. E. T. Bruen, Philadelphia; and in Otology, by Dr. Chas. S. Turnbull, Philadelphia. The Pennsylvania Railroad and its branches, and the Philadelphia and Reading Railroad and its branches, will issue excursion tickets at the rate of two cents a mile. All who desire to avail themselves of this should notify the Permanent Secretary, stating the number of excursion orders required, and the railroad over which the party must travel to the place of meeting.

WM. B. ATKINSON, M. D.,
1400 Pine St., Phila. Permanent Secretary.

Personal.

Dr. J. W. Holland, of the University of Louisville, has been elected Professor of Chemistry in the Jefferson Medical College of this city, in place of Dr. Mallet, who resigned to return to his old chair in the University of Virginia.

The President has detailed Dr. George M. Sternberg, U. S. A., to attend, as the delegate from the United States, the International Cholera Conference which convenes in Rome on May 15. Dr. Sternberg has sailed for Europe.

—Dr. Allard Memminger publishes an article in the *New York Med. Jour.*, February 7, 1885, entitled "Nitric Acid a Probable Means of Differentiating Bright's Disease of the Kidneys from that in which the Albuminuria is Caused by Functional Disturbances and may be Termed 'Latent Albuminuria.'"

*See Preliminary Report of Committee on Disinfectants in the Medical News of March 28, 1885.

†One litre of sulphur dioxide weighs 2.9 grammes. To obtain ten litres of gas it is necessary to burn completely fifteen grammes of "flowers of sulphur" (Vallin).